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The Use of Clay Balls In Ancient Egypt:
A ritual of fertility, rite of passage and a contractual
agreement?

by

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A thesis submitted in fulfilment of the requirements for the degree of Master of
Philosophy

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Thesis word count: 99,890

Abstract

The function of the clay balls of ancient Egypt has not been conclusively established, despite the fact that they are a versatile object found in homes, tombs and near temple complexes and are dated to a period which spans 3000 years. Previously scholarship has focused primarily on the clay balls which contain hair, but these only make up a small percentage of the total balls found. The majority of the clay balls currently have unknown contents and a few balls contain different materials such as linen, string, papyrus or reed. This thesis has determined that a typology of the artefacts was necessary due to patterns which emerged when looking at the characteristics of the balls, such as the contents and decoration.

This research discusses theories posed by previous scholarship and determines whether these are plausible explanations to the function of the clay balls, as well as providing new theories. Firstly, it explores whether the artefacts may have served as part of an execration ritual, based on the existence of rituals depicted on monumental art. The 'striking of the ball' ritual involves the smashing of clay balls with a club or bat to destroy the eye of the evil entity Apophis, whereas in another ritual balls are thrown towards the cardinal points to protect the sun god from evil forces. There are also a number of spells which follow a similar theme which will be discussed.

Secondly, the research has investigated the possibility that the clay balls served as a rite of passage, due to the inclusion of hair and the existence of a similar artefact in modern Egypt which is given in offering to thank for the life of a child. It has also explored the concept of balls within cosmic rites of passage, such as the birth and rebirth of the sun god in the form Khepri. Thirdly, the study will assess whether the proposal that the clay balls served as a contractual agreement with a priest based upon the inscription *htm*, found on a number of balls. This chapter explores different forms of contract that may have existed in ancient Egypt, as well as comparing the clay balls to the *bullae* from Mesopotamia which have similar characteristics to the clay balls.

This thesis has shown that the clay balls have been worth further study, contrary to Peet's statement that to research them further was "foolish". Although they have a general multi-functional apotropaic and amuletic purpose, their specific function can be determined depending on type. This study has highlighted the importance of the clay balls and has provided a base for future studies, in addition it has contributed to the understanding of ancient Egyptian symbolism, religion, fertility, rites of passage, and our understanding of ancient Egyptian belief in cyclical time.

Acknowledgements

My first thanks go to the donors of the Alumni Scholarship at the University of Kent, without their funding I would have never been able to afford to become a PhD candidate. I will always be eternally grateful for their generosity and for selecting me for the scholarship in 2012.

Throughout my years of research I have had support from a number of people; I would especially like to thank Dr. Kasia Szpakowska for introducing me to the clay ball artefacts which have become my obsession, to my supervisor Dr. Patricia Baker for her support and belief in my abilities, and Jacqui Martlew, whose caring and helpful nature helped me through difficult times. Furthermore I would like to thank my additional supervisors Dr. Csaba La'Da and Dr. Steven Willis for their expertise and comments on my work.

There have been a number of museum staff and excavators who have aided me with my research; in particular Dr. Anna Stevens, who took the time to go through my questions and keep me up to date with excavations at Amarna and any clay balls that were found. I would also like to thank Dr. Ken Griffin, Prof. Dr. Julia Budka, and Marie Vandenbeusch for making me aware of clay balls found at other sites.

Additionally the Egypt Exploration Society has been a great place to research, and I would like to especially thank Carl Graves for his help and rationale the last few years. I would also like to thank my friends and family, particularly Jennifer Baker, Madeleine Cobbold, and Sarah Holloway who took the time to read my drafts and offered suggestions on my work.

Lastly I would like to thank my partner, Robert, who has supported my desire to pursue a PhD, and has been a pillar of understanding and has persistently encouraged me these last few years. Without his unbridled support I doubt I would be where I am today.

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CHAPTER 1— INTRODUCTION

1.1. Introduction

Found at archaeological sites across Egypt, an unusual artefact— balls made of sundried clay— have attracted little attention by scholars for many years. These objects are dated from the Naqada I period (4000-3500 BC) to as late as the Roman period (30BC-AD395) and, as yet, no conclusive theory has been established about their original functions. Some of these clay balls contain concealed contents: human hair, linen, and papyrus or reed. Yet, many of the balls are intact and thus their contents, if indeed there are any, remain unknown. Moreover, a number of the artefacts are impressed with hieroglyphic seals or are inscribed.

Their archaeological context indicates their significance. They are found in burials, domestic structures, and within temple complexes and are dated to an extensive 3000 year time period and thus indicates a long held tradition and/or importance. These varying findspots and dates could suggest that the clay balls use was multi-functional or that they served a number of different uses, thus they warrant further research by looking for evidence in the artistic and literary record. Magical papyri mention the use of clay balls as part of rituals depicted on monumental scenes of a religious/ritual situation that suggests that the balls served an important religious or ritual function, which would affect the ancient Egyptians in both their lives and their deaths.

The decoration found on a number of the clay balls may also contribute to the artefacts' importance. For instance, inscribed upon a selection of the balls are the names of kings and deities, images of plants and flowers, as well as phrases, such as *htm* 'to make a contract', all of which may indicate a potentially significant purpose of clay balls in ancient Egyptian life, and as a consequence I will examine the importance of the balls to determine their possible functions.

The clay balls have not received detailed investigation until now as researchers have tended to ignore their presence for three reasons: 1) because they are small in number; 2) or they are not found in high numbers throughout Egypt; 3) or there is no explicit Egyptian evidence for their use. It could also be suggested that they have received little attention, because they are simple artefacts and lack the 'splendour' of a piece of jewellery or the bodily remains of an ancient Egyptian. Egyptologists, such as Hogarth, are known to have been uninterested in seemingly mundane objects, which were considered to be "domestic rubbish" (Lock 1990: 180-1). The misinterpretation of the clay balls has been a common occurrence, particularly on early archaeological excavation sites where they may have been incorrectly identified as lumps of clay and were unrecorded by archaeologists. It is possible that they could have been missed because some of the clay balls have no distinguishing marks or decoration, or, due to disintegration, were unrecognisable.

There are a number of reasons why these artefacts may not have survived: ancient sun-dried clay crumbles; this has even occurred to some of those which have been cared for in museums. For instance, The University of Pennsylvania had a ball (no. 111) in its collection that eventually deteriorated to dust and was discarded (Appendix 1). This also happened to ball no. 17, which also succumbed to age and was eventually destroyed in 1966 (Arnst 2006: 19). Ball no. 25 has deteriorated and is currently undergoing conservation work at the British Museum.¹

The number of clay balls found (162 in total) dated over a period of 3000 years does not suggest an intensive usage, but their survival and consequent identification is limited (this will be discussed in greater detail in chapter 2), and would thus affected the amount of balls recorded. It could be argued that these artefacts were not common, due to the discovery of only a small number of clay balls, and thus of little archaeological significance.

¹ I am aware of this after visiting the Egyptology department and speaking with the staff at The British Museum on 24th November 2012.

Yet, it is important to remember that absence of artefacts does not mean they did not exist originally, for the artefacts could have been destroyed through the continued occupation of a site, lost because of the fragile nature of the sun-dried mud, or through execration.

Archaeological sites have other hazards for the conservation of clay balls; besides the disinterested archaeologist, the continuous occupation of sites from ancient to modern times could have led to their destruction unknowingly. Alternatively, the artefacts may have been destroyed through their use as an execration object, which would be inscribed with an enemy's name or a word associated with an evil to be overcome, and then the object would be smashed in order to dispel the evil, as discussed in chapter 4 (Szpakowska 2008: 127; Teeter 2011: 159).² These multiple possibilities for the lack of clay balls in the archaeological record highlight that (potentially) there could have been substantially more of them than we know of, if this is the case, then we may find further evidence for the functions of clay balls in the future.

However, an archaeologist in the 1880s, William Flinders Petrie, argued that seemingly uninteresting artefacts should also be recorded for analysis (Petrie 1904: 124-135; Weeks 2008: 9-11), and he was one of the few early Egyptologists to record a clay ball (Petrie 1927: 61, 529; Petrie and Mace 1901: 32.50). More recently there has been some research conducted on them, but it centres on the 15% of the balls containing hair. This thesis will be a more conclusive study concentrating on all types of balls and will give a more balanced examination.

This thesis will determine the function of the clay balls according to their type (further discussion of this thesis' typology can be found below), and how they might have had a general multifunctional use. The theories posed in this study will be based upon the clay

² In the case of the 'breaking the red vases' ritual, the breaking of the vessels was to induce fear in an enemy directly (Ritner 1993: 146). These artefacts are found frequently in burials (Ritner 1993: 145).

balls found to date, but there seems to be an inherent lack of survival of the artefacts. From the surviving balls we can determine that they were used over a 3000 year period, which would leave one to suspect that more than 162 clay balls would have been discovered. This could be explained by the fragility of unbaked mud, or that due to continued occupation of sites has resulted in them being destroyed. Nevertheless, there are still too few artefacts for the time period, so the thesis will explore whether they were in fact part of an execration ritual, during which the balls were deliberately obliterated. The inclusion of contents may indicate another function of the clay balls, particularly those containing hair of a young child, which may point towards a rite of passage. The existence of similar rites of passage in other parts of modern Africa, including Egypt, could support this theory. The thesis will also address the theory that they were evidence of a contract made with mortuary priests, originally suggested due to the discovery of clay balls in tombs with the inscriptions *h̄tm* 'to make a contract' on them. A chapter will be dedicated to each of these theories posed by previous scholars, and will be examined and discussed thoroughly to determine their credibility, as well as bringing in my own theories, and supporting with other evidence found within the archaeological and literary record.

In this introductory chapter I will detail the methods I have used to research the function of the clay balls. To start I will define my interpretation of the terms used throughout this thesis, such as what classifies as a clay ball and the difference between the definitions of ritual and religion. I will also establish my research aims other than the main overall question. I will then detail my methodology and the sources I have used, as well as any limitations I encountered throughout my research. I will finish with a detailed discussion of the previous scholarship regarding clay balls and the theories posed by these scholars.

1.2. Definition of a Clay Ball

A specific indication of how an artefact is defined as a clay ball in this study must be given because this term is applied to a great variety of archaeological and anthropological artefacts. Principally, the criteria selected for inclusion in this thesis are as follows: a clay ball must be a rough sphere of unfired clay or mud of ancient Egyptian design or from an Egyptian context, dated from the Predynastic period (5300-3000 BC) to the Roman period (30 BC-AD 395).³ Balls made of other materials are not included in this examination. They were made of a vast amount of different types of spherical items, such as faience and leather, found throughout ancient Egypt which are dissimilar from the ones in this study. Leather game balls and hollow segmented faience balls are physically different in appearance and in material. However, for comparative purposes these other balls will be mentioned from time to time.

In addition to these factors, I used their size as a measure when researching the clay balls. For instance, those that have been included in this thesis are between 1.0 cm and 8.5 cm in diameter. There are no clay balls larger than 8.5 cm known in the archaeological record. Clay balls smaller than 1.0 cm are unlikely to hold any contents or possess any legible inscriptions, and so may serve a different purpose (such as beads for jewellery) for those examined in this study.

The contents have not been used as a determining factor in the definition of a clay ball. 135 clay balls have unknown contents and with previous scholarship focusing primarily on the clay balls containing hair, it would be counterproductive to disregard the artefacts which as yet have undiscovered contents as they make up 83% of the total balls found. In a few cases the clay balls have had their contents incorrectly classified as containing hair, and this

³ The dynastic dating system will be used throughout this thesis.

will be fully discussed in a later chapter. The contents are one of the main determining factors in the classification of clay balls within the typology.

Unlike contents, archaeological contexts are not a determining factor in establishing how I define the objects, but can be used to distinguish the different types of artefacts to create the typology included in this thesis (chapter 2). To determine what a clay ball was, based on context, would limit this study to only one form of the artefact, for instance, focuses on Type A would mean that the study would focus only on the balls which are dated to the Old Kingdom and are found in southern burial sites, such as Abydos, Reqaqna and Beit Khallaf. This would make the discussion fairly limited, and would not take into account that the clay balls found at other sites may be related or that the balls are multifunctional in their use throughout the country and those outside of it with Egyptian origins.

One of the main aims of this thesis is to identify the different types of clay balls, and establish whether they served the same function. It is possible that balls found in both domestic and funerary findspots could have served the same function regardless of the contrasting contexts. However, there is significant evidence to argue that different types of clay balls had a variety of functions. Alternatively, the clay balls may be considered multifunctional, being created without one specific purpose in mind, and then being used for a variety of functions.

Origins can be difficult to determine when examples of clay balls are found on archaeological sites outside of Egypt, such as those from Beth Shan in Israel, but any artefacts with strong evidence linking them to an ancient Egyptian cultural origin, such as an inscription written in an ancient Egyptian script, have been included in an attempt to better interpret the objects. The presence of clay balls at Egyptian archaeological sites do not prove that it is the place of origin of the clay balls and may be of foreign origin. This

could be the case when considering the clay balls containing hair, as there is no inscription to provide evidence of Egyptian origin.

This thesis aims to represent a wide understanding of the clay balls with varying contents and decoration, to gain a better understanding of the different forms and their possible uses. Similarly, the consideration of contexts and the contents of the artefacts will be reflected within the grouping, to allow a full comprehension of them. It is possible that the artefacts functions may have changed through time, particularly if they were used on separate occasions, thus it is important to gain a better understanding of the use of artefacts.

Use of artefacts

The use lives of artefacts are perceived by some scholars, such as Wobst, to be far more important than the production of the object, in the understanding of an artefact and its contribution to the communication process (Wobst 1977: 320; Hodder 1995: 22). An artefact can influence communication, even when a conversation has not taken place (Schiffer 1999: 201). In the case of Egyptians, an amulet may be given to a vulnerable person, such as the old, young or sick, and the cultural meaning of the object, as a protective force against evil, would have been understood by both the giver and the receiver, deeming words unnecessary for the communication process. A comparable modern western example would be the giving of a horseshoe to a bride and groom; the horseshoe is believed to give the couple luck in their lives together, and usually no explanation is necessary when given as a wedding gift.

A single artefact in itself can be silent in the communication process in which it took part, but archaeology is not only the study of artefacts (Hodder 1995: 126). The 'text' of an

artefact is the context of the find, which is contributed to by the various elements of information known about the artefact (Thomas 1999: 60). This may include the site and context from which the artefact is found, the general culture and religion of the people who lived there, and other objects found with the artefact, which altogether may give further indications of the possible function of that artefact. Thus, when we analyse the clay balls we must take into account that different groups of the artefacts are discovered in different contexts, such as homes or tombs, and this variant may alter their functions. However, a degree of understanding can be achieved through comprehending the 'text' of the clay balls. The 'text' could include the context in which they are found, the time period they are assigned to, or other objects they are found with. This 'text' is not stagnant as the function of clay balls may have differed depending on variants such as time, context, provenance, and any religious or artistic changes. For this reason, all of these elements will be addressed throughout this thesis to ensure a full grasp of the different uses of clay balls.

Once the 'text' of an object is known, and the archaeologist develops a way to translate the language of the artefact, the function and perception of the object can begin to be understood. The interpretation of the artefact; however, will not be entirely clear. The symbols of material culture are more indistinct than, for instance, the literal meaning which can be obtained from a written language. This allows more freedom in the interpretation of the artefact and allows more flexibility. The flexibility of interpretation is crucial when understanding artefacts, as the continued use of an artefact through time and space could mean that there are a number of different valid interpretations for the function of the object (Hodder 1995: 126). It is for this reason that it was deemed necessary to create a typology for the clay balls. The geographical and chronological spread of the balls' use meant that a number of different functions could be applied to the artefact depending on the time and place from which it originated. As a consequence, a typology allows any

correlating factors to be organised together, which would then aid a concise separate analysis for each 'type'.

When considering the context, design, materials of the clay balls it is worth discussing what exactly the producer was implying by shaping of the object in a spherical form, or with the decoration he or she placed upon it. The symbolic implication of the clay balls could be transmitted through the decoration present, or through the knowledge of what is contained inside. To the receiver, this could represent the beginning or completion of an activity. For instance, it may have been in an individual's rite of passage ceremony. The receiver of the symbol could then respond, would be treated differently often the ceremony, such as becoming an adult.

Shennan argues that production methods and functions of artefacts throughout time would have become an automatic action, and thus variations in artefacts should not necessarily be taken as a conscious decision by an individual, but as a mechanical process undertaken by a culture (1994: 19). Bentley's use of Bourdieu's concept of *habitus* agrees with this theory, arguing that the way people perceive things is subconscious and instilled in them by the culture in which they grew up (Shennan 1994: 20). However, to discount any individual production methods or uses, either conscious or subconscious, seems severe, as each person interprets an artefact differently, even if the difference is subtle. Schiffer argues that the communication process of an artefact is more important than the production process, as the receiver's response can give a better understanding of how the artefact was perceived (1999: 214). Although this may be the case with some objects, this thesis will prove the contrary for the clay balls, as the selected materials for the production of the balls may have been deliberately chosen due to the symbolic meanings behind each one. For instance, the choice of using Nile clay, as opposed to marl clay, would have had links to aspects of fertility, which were essential for the balls creation and use.

When employing the different aspects of archaeological theory to the clay balls we must first be aware that our perception is subjective to our own upbringing and culture, and in this case I am viewing the clay balls from a modern, western, female perspective with Christian origins. Other limitations may include the researcher's education, a limited understanding of how the materials work (through not being trained in a related trade such as pottery), and being affected by the bias of other scholars and archaeologists. Another limitation to the interpretation of these artefacts is the unconscious behaviour that has been applied during the production of a clay ball, thus limiting our understanding of the communication process attached to this artefact. The preservation of the artefact may also provide a bias: for instance, the clay balls may have originally been completed with colour paint, but with no evidence to suggest that this interpretation has been subject to further preconceptions.

Artefacts can vary, subtly or significantly, chronologically or geographically, due to a range of contributing factors: the changes in the organisation of social order, the environment or changes within it, and developments in religion and art, to name a few (Shennan 1994: 17). This should be considered when analysing the clay balls, for their extensive use over a period of approximately 3000 years could mean that their function is likely to have drastically changed throughout this period. These changes may have occurred gradually over time through attempts to keep old traditions alive.

Physical changes to artefact can occur naturally and/or culturally, which occurred before or after deposition of the object (Thomas 1999: 56). These changes are particularly problematic to the archaeologist when scratches and stains alter the original design (Thomas 1999: 58). Yet, these signs of wear may have increased the object's value to those using it, invoking specific beliefs in age or raising memories of past owners. This could be the case with the clay balls, some have white washes which may have been added later, or

they could have been damaged on purpose. In Egyptian archaeology, an extreme of such changes is evident in the execration rituals, which involved the complete destruction of an artefact with the aim of dispelling evil (Seidlmayer 2005: 487).

1.3. Definition of Ritual and Religion

A clear definition between religion and ritual is not easy and the integration of ritual into religion often means that the terms are not used exclusively. Paul Mellars (1996) avoids the use of the words 'ritual' and 'religion' and instead uses the word 'symbolism' as a broader term to describe "anything, be it object, sign, gesture or vocal expression which in some way refers to or represents something beyond itself" (Insoll 2004: 25; Mellars 1996: 369). However, 'symbolism' is too broad a term for this study, and words like 'ritual' and 'religion' do have specific definitions, although the lines are sometimes blurred, and can be differentiated to a certain extent for clarity in analysis.

Renfrew defines religion as something which "clearly implies some framework of beliefs. These cannot, however be restricted to general philosophical beliefs about the world or about the way it works. They must relate to forces which are not merely those of the everyday material world, but which go beyond it and transcend it" (1994: 47-8). This definition can be applied to a wide range of beliefs, including those of the ancient Egyptians, and will be applied to this thesis. Renfrew, however, disapproves of the use of the term 'religion' when studying archaeology as it is "conceived as a separate dimension or sub-system of the society, could thus prove to be something of a misconception, even among those communities where the supernatural plays a significant role in shaping the thoughts and actions of its individuals" (1994: 47). This certainly applies to the ancient Egyptians, whose religion was integrated into everyday life, and consequently the study of

their religion cannot easily be extracted from other aspects of life, such as death rituals, childbirth, or magic, which becomes apparent throughout this thesis.

A common view of religion in ancient lives is that it was a separate thought process in the different elements of daily life, but Insoll has suggested an alternative theory which is that religion and its ideology would have been an integral part of every day and would have affected seemingly separate areas of life such as technology and social organisation (2004: 23).

This would certainly be true for the ancient Egyptians whose religion can be seen in their social organisation, such as the king as Horus on earth, or in their technology we see Seshat, the goddess of architecture, in death through the belief in an afterlife and maintaining ancestor cults, subsistence in that they are reliant on the gods to ensure the sun rose and the crops grew, and in economy and trade we see Ptah the god of craftsmen and Khnum the potter god. The fact that within the Egyptian language there are no specific words for 'belief', 'religion', or 'piety' could support the view that the ancient Egyptians did not separate religion from other aspects of life (Morenz 1960: 3, 4). Bleeker believes that the lack of these terms indicates that the structure of Egyptian religion was vastly different to how many of the current world religions are organised. The Egyptians had not yet developed the level of self-reflection to be aware of the general concept of religion as we now understand it (1973: 3).

Ritual can be defined as "the performance of more or less invariant sequences of formal acts and utterances not entirely encoded by the performers" (Rappaport 2002: 24). A more general definition would be that the person enacting a ritual is one who wishes to communicate something about themselves and to create a change in their world (Rappaport 2002: 47). These performances tend to be repeated and take place at a specific time, place or social situation (Rappaport 2002: 33). Under this classification mundane

activities could also be considered as ritual (Bell 1997: 142, 169), but this is dismissed by Goody (1977: 26), who believes this lessens the value of the concept of ritual (Brück 1999: 315). Ritual is a complex concept - it can incorporate ideological, religious and political thought and is often used as a constant during times of change (Hodder 1982: 167, 172).

Rituals can be used to give a person an experience outside their everyday life and often becomes a practise which allows people to understand the world around them and the complexities of their social structure (Barrett 1991: 5-6). In this thesis I will use the term ritual by Hodder's definition "ritual refers to performance and the associated rules rather than to abstract concepts and beliefs...Ritual is usually odd and alerting; it attracts attention because it is special and not mundane". This term accurately describes what ritual is, and differentiates it from the practices performed by people on a regular basis, which are more accurately described as a custom (Hodder 1982: 159).

Rituals continually develop and are the product of generations of a society's beliefs, and are not a random selection of practices. Thus, to understand the ritual it needs to be observed in its different forms and over a period of time (Leach 1967: 104). Perhaps some remnants of the original ritual can be drawn from modern ethnographic parallels, such as that of the Fellahin. Rituals can survive significant amounts of time, such as the *Athirathram* ritual from India, which has been practised for over 3000 years (website 6 and 7). It must be considered, however, that cultural changes over a time period of 3000 years may have altered a ritual substantially, which hold little resemblance to the original rituals (Thomas 1999: 62). Thus, the clay ball ritual that is now seen in modern Egypt may not accurately reflect the clay balls' function during the ancient period, but they may have originated from an ancient practice.

Religion is often centred on one or many deities, which are revered and worshipped. Ritual practice can incorporate elements of religion, but is not exclusively so. Social order, such as

the use of rites of passage to change the social standing of a person, is often completely unrelated to religion. Certainly, ancient Egyptian rituals depicted on monumental displays are heavily imbued with religious meaning. These monumental displays have a strong archaeological presence (Bradley 1991: 135), but rituals of the populace are not well-documented and can only be understood from fragments of information. Ritual actions devoid of religion are not necessarily easily identified, as there is often no literature or art to distinguish it as so.

Ritual and non-ritual objects are hard to define, as ritual contexts may contain non-ritual objects, and non-ritual contexts may have ritual objects within them (Kyriakidis 2007: 18), such as tombs with writing implement and statues of deities in homes. Within archaeology there is a high risk of archaeologists identifying an unknown object as a 'ritual' artefact with no clear evidence for interpretation (Hodder 1982: 164). I wish to avoid this, by exploring other possible functions of the balls rather than rely on ritual functions alone. Nonetheless, there is strong evidence present on monumental art and texts, in addition to papyri, to suggest some of them were used in specific rituals or religions. Supporting evidence will also be provided through the discussion of ancient Egyptian perceptions of particular themes, such as their beliefs surrounding fertility, and how they perceive hair and cyclical time.

1.4. Research Aims & Objectives

These artefacts came to the forefront of my attention when I was shown a photograph of a clay ball with hair protruding from it. I was instantly drawn to the red hair and began to wonder why it was placed inside clay, whether the hair was dyed, and what sort of people would dye their hair this colour in ancient Egypt (Descroches-Noblecourt 1986: 390;

Fletcher 1995a: 465).⁴ The simplicity of the balls meant that they could have been made by anyone, but I suspected the decoration present on some of them provided clues to their significance. Once I discovered that there seemed to be various types of clay balls that were found in different contexts and were used for an extended period of time, I realised that these artefacts had been important to the ancient Egyptians and that the clay balls were an enigma that needed to be solved.

These differing types point to possible answers regarding function: for example, the material of the clay balls may have served a symbolic purpose, particularly as the clay used was taken from the Nile, which had religious significance to the ancient Egyptians (Assman 2001: 205; Hassan 1997: 52; James 1969: 18; Wilkinson 2003: 17, 106-8, 117). Hieroglyphs, meaning 'sacred carvings' or 'gods words' (Allen 2001: 2; Baines 2007: 46; Erman and Grapow 1928: 180-181.6f), were imbued with symbolic meaning. The hieroglyphs could be used to detect evidence for the function of artefacts. The discovery of the hair within the clay balls also prompts further questions and to understand the reasoning behind this a detailed discussion will take place regarding the significance of hair and why it may have been cut from the head and stored in this fashion.

Discovering who made the clay balls would have an impact on their analysis, because symbolism is interpreted differently by different people. For instance, children (who could have easily made the clay balls) may have placed symbols for reasons of aesthetics, whereas an adult may have been familiar with a deeper religious meaning for it. Similarly, education, social status and gender could all inform symbolic representation.

In relation to social status, the question of whether lay people would have had access to the monumental inscriptions found on the temple walls will be discussed. In conjunction

⁴ Particularly as red hair had negative connotations in ancient Egypt, due to its rarity and association with the god Seth (enemy of Osiris and Horus) (Descroches- Noblecourt 1986: 390; Fletcher 1995a: 465).

with this will the likelihood of a monumental ritual being adapted for use in everyday ritual, or vice versa.

From this discussion the research hopes to ascertain whether the clay balls played a role in maintaining *maat* (chapter 4)— this concept encompasses the ancient Egyptian ideal of cosmic order and truth (Faraone and Teeter 2004: 186-187; Martin 2008: 951-2).

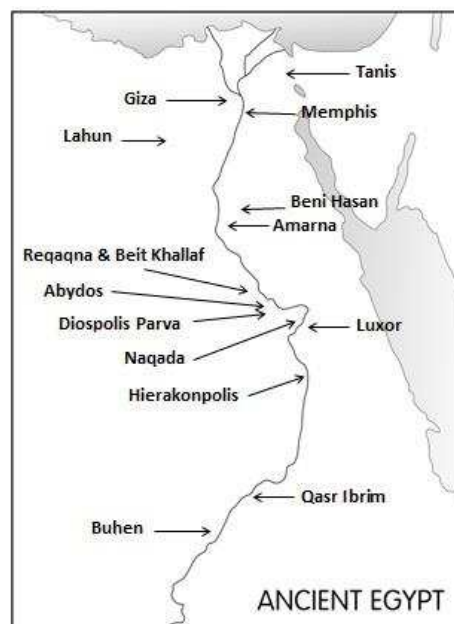
1.5. Research Methodology, Sources and Limitations

The central research aims of this thesis are to assemble a full, descriptive database of as many clay balls as the circumstances of the research have allowed; to draw up a detailed typology based on this database; to examine, critically, all previous scholarship on the clay balls; and on, the basis of the foregoing, to undertake a comprehensive and thorough study of the clay balls, in order to attain a much deeper understanding of them, their contents, their decoration, their functions, and the social and ideological contexts from which they originate. The database has been compiled using a number of sources including museum databases, excavation reports, excavator's notes, small find register cards, the Amarna database, communication with current field archaeologists, and any additional information that the museum curators supplied to me upon request.

The most significant source materials for this research will of course be the artefacts themselves and the information provided by the excavation reports. Thorough excavation reports such as Kemp and Garfi's *A Survey of the Ancient City of El-'Amarna* (1993) include detailed town maps to present clear representations of where the clay balls have been found throughout the city. This excavation was the next major excavation since Frankfort and Pendlebury (1972) and Borchardt and Rieke (1980). Excavation reports are an excellent

source for information on clay balls, as well as for further research into contexts and the other artefacts found with them.

Excavation reports sometimes retain records of clay balls that have been discovered, which may not be in museum collections. Often the earlier excavation reports note that clay balls had been found, but no provenance is provided. The EES Archive has the find cards to the early Amarna excavations (1921-1922, 1923-1924, 1924-1925, 1926-1927, 1928-1929, 1930-1931, 1932-1933), which have provided further information on the artefacts found. More recent reports do provide full details for the artefacts excavated, including provenance, which is vital for understanding the clay balls. In this thesis, the excavation reports from the sites where the clay balls were found have been searched thoroughly, and also those for sites across Egypt have also been examined to gain an understanding of how geographically spread the use of clay balls were. The excavation reports for sites which have been examined are shown on Map 1.



Map 1: Excavation Reports Searched

This selection was made in the attempt to ensure that a wide range of sites were used, both geographically and chronologically, in order to analyse correctly the usage and spread of the clay balls in ancient Egyptian archaeology. The results of this are not conclusive, as the artefacts may not have been identified or may not have survived the archaeological record.

The usefulness of museum online databases depends on the resources of the individual museums. Some databases provided full details for every artefact housed; whereas, those museums with limited funding and staff have not yet been able to digitise their whole collection. To avoid any gaps caused by lack of online databases, the museums have been contacted directly. Specifically these contacts have been limited to museums in the UK, USA, Italy, Germany and France. Clay balls are not known to have been sent to museums in other countries and thus it was not necessary for this study to contact them all. This limitation has been based on the knowledge of where the clay balls are known to have been sent to and to provide a wide sample base. I gathered further information when I heard about clay balls being found on sites, and consequently contacted the excavators to acquire the latest information.

The database that has been created from this research details as thoroughly as possible the different characteristics of each ball. On this basis, I have undertaken a comprehensive typology of the balls to assist in the identification and analysis of each ball. In order to assemble this database, information has been extracted from museums' online catalogues using a variety of search terms such as 'clay', 'ball', 'clay ball', 'mud', 'sphere', 'lump', 'waste', 'votive offering', etc. This was deemed necessary due to the wide variety of terms used to describe these artefacts in museum collections. However, often these databases are far from complete, so direct contact was made with the institutions to check that no potential artefacts were missed. Again I used the search terms detailed above. This

procedure has also been used for museums with no current online databases. The museums were contacted either by email or by post, and I have listed those which have responded (Appendix 3). In total, 160 museums (Appendix 3) replied and were able to confirm or contradict whether they had any clay balls and provided any further information when available.

To facilitate as full a record as possible, additional information has been acquired through personal examination of the clay balls, where possible.⁵ Information such as clay fabric description, dimensions, weight, and in some cases a translation of hieroglyphic writing, are not always provided by the museums and where possible the current records were checked for accuracy; thus, personal examination is crucial to acquiring this information.

The Amarna Project's Small Finds Database,⁶ an online resource compiled by Dr Anna Stevens, has been thoroughly examined using a variety of different keywords, such as those used to search the online museum databases to identify any clay balls. It has also proven to be a useful resource for matching information with excavation reports and published articles, and in some cases to discover more of these artefacts which have been missed in previous scholarship. This resource can be used to discover other artefacts found in the same context. These associated finds could then be used to relate this back to the function of the clay balls themselves.

All of the information gathered from these sources has been recorded in a large working database, with a selection of information provided in Appendix 2, and has been recorded in individual working files. These 'ball sheets' (see Appendix 4 for an example) have been used to record information about each specific ball, in particular for those examined in

⁵ This includes visiting the British Museum, Durham Oriental Museum, Museum of Anthropology and Archaeology, Manchester Museum, Liverpool Museum and Petrie Museum of Egyptian Archaeology (UCL).

⁶ http://www.amarnaproject.com/pages/recent_projects/material_culture/small_finds/database.shtml. This database covers the years between 1921-1936. Accessed 14th November 2012.

museums, to provide a suitable surface for sketches and drawings and to provide a rigid system to assure that the same information has been acquired for every single ball. This information has then been entered into the main database.

Other sources, as mentioned above, make direct reference to clay balls. Ancient Egyptian epigraphy and monumental art provides evidence to support the theories that are presented in this thesis. In monumental art, particular attention will be drawn to the 'striking of the ball' (*sḫr ḥm3*) ritual (chapter 4). In this the Pharaohs hit balls to defeat the evil entity Apophis (Borghouts 1973: 114-50). Magical texts are also explored, for example, one spell advises that clay balls should be thrown into water to protect a person from an unknown foe (Borghouts 1978: 87).

For the further research into the function of the clay balls the magical, medical and funerary texts were searched for any reference to balls. The texts found to contain a mention of clay balls include the Old Kingdom Pyramid Texts (Faulkner 2007), the Middle Kingdom Coffin Texts (Faulkner 2004), the Book of the Dead used from the New Kingdom (Quirke 2013), the Harris Papyrus of the 19th/20th Dynasty (Leitz 1999), The Book of Night and The Book of the Earth from the 20th Dynasty (Rambova 1954: 427, Pl. 130, 196), and the Late Period Brooklyn Papyrus (Kousoulis 2002: 158). The mythological stories of ancient Egypt were also read and researched with the intention of gaining a better understanding of the potential symbolisms of the decoration found on the clay balls. This was built upon by searching through catalogues of seal impressions (Ben-Tor, Allen, and Allen 1999; Collon 1997; Petrie 1914, 1925, 1972; Newberry 1984; Shiloh and Tarler 1986; Tufnell 1984; Ward 1970) in the attempt to find similar decorations. It also allowed for a comparison of the types of artefacts (alike to the Egyptian balls) upon which the seals were impressed.

Ethnographic theories were used in this research to gain a better understanding of the word 'ritual' and how it is used to define patterns in human behaviour. In addition these

theories were applied to find appropriate parallels to understand the purpose of rituals, rites of passage, and the uses of clay. Ethnoarchaeology is used to test an archaeological theory on a modern culture “to examine the linkage between material culture and human behaviour” (Longacre 1999: 45; Trigger 1999: 387). Although the use of ethnoarchaeological comparatives is sometimes opposed by scholars, such analogies can be relevant, if an understanding of its limitations are established and archaeological theory is combined with it (Hurcombe 2007: 63). Blackman’s exploration into the possibility of the ancient Egyptian clay balls’ function being comparable to the employment of similar artefacts used by the modern Egyptian Fellahin is an example of an attempt to use ethnoarchaeology to understand an ancient culture better.

Anthropological and historical analogies are not made lightly; analogies are known to be ‘unreliable and non-rigorous’ (Hodder 1982: 27), but the comparisons used in this thesis are employed if sufficient relevance can be proved. Modern examples can be relevant, if there is enough evidence to suggest a pattern between the materials used and why they are used. In this way they are as valid as an ethnographic example of a practice conducted by a traditional tribal culture (Hodder 1982: 40). There will be examples non-relevant to ancient Egypt in this thesis, but these seek to explore the human thought process to particular situations and will not be used as a directly comparable analogy. Ancient cultural parallels were equally important to study, for example the Mesopotamian bullae, which appear to be physically similar to the clay balls and were used to record financial transactions. Mesopotamia was connected to Egypt through trade and the movement of peoples, thus the objects’ functions may have been dispersed across the ancient world.

Limitations of Research

The primary limitation of this research is the lack of information present regarding majority of the clay balls. One of the main issues encountered were museums that do not yet have their full collections online. In this case I attempted contact, but sometimes, I was unable to elicit responses (either due to lack of staff, email malfunction, museum restructures, or general lack of responses), making it at times extremely difficult to obtain information essential for the database. For the museums I attempted to contact see Appendix 5.

In some cases, I was unable to examine a proportion of the clay balls personally. The most common reason was due to the lack of documentation of where certain artefacts were stored after being excavated. The second reason was that, as the balls are distributed globally, it was difficult to locate where the clay balls had been sent after excavation. Thirdly, due to the fragile nature of the balls they could easily disintegrate, and in the case of ball no. 17 (Berlin Museum), have consequently been destroyed. Fourthly, I was originally intending to visit the site of Amarna during October 2013, where I would have had the opportunity to study the clay balls stored there, but unfortunately due to the political situation in Egypt the site was inaccessible for safety reasons. However, their online database was helpful for obtaining some information.

Although it is not always necessary to examine the balls, as good quality photographs can often suffice for analysis, there were some artefacts which I would have preferred to have examined. For instance, in at least one case, a clay ball's inscription had been translated incorrectly (ball no. 1 addressed in chapter 2). The reason for this potential error may be due to the fact that there was another seal present which contained the pattern described by Bolton museum, but is not shown on the image provided. It is possible that the incorrect image had been supplied with the information for this artefact, or that the translation was incorrect. By examining the artefact, it would have enabled me to determine where the

error lay and rectify the issue with the museum, as well as detail the mistake in this thesis. However, this clay ball is currently unable to be located by the museum, but the recent reorganisation of the museum may allow the artefact to be found in the future. Further discussion about this can be found in Chapter 3.

Other benefits of personally examining artefacts is that it allowed a close inspection of the matrix of the clay. For instance, one is able to ascertain the precise material used, whether Nile or marl clay. In addition to being able to establish the minerals present in the clay, the establishment of colour for the same reason is also important in the designation of material, as well as for determining any significance of a chosen colour of paint. However, this is hindered by photographs which may represent the colour of the artefacts slightly differently than what it actually is, or are represented with black and white photographs.

The principle limitation in the typology is the lack of recorded information for many of the artefacts. Usually, decoration is recorded in excavation reports, due to its explicit detail; however, diameter and weight are usually only recorded in museum records. These details could be crucial for understanding whether there is any correlation between dimension and weight with the presence of contents (Chapter 3). We are currently unaware of the location of ninety of the artefacts, thus it is not presently possible to obtain this information. The clay balls without museum locations sometimes have registration cards from the original excavation which indicate the specific museum the artefact was sent to. I have checked with these museums whether they hold these objects in their collection, but in some cases they have no record of it.

These registration cards also allow translations of the seals to be checked, because for the most part they include a drawing of the design. Yet these cards do not always provide full information about the artefacts nor do they provide illustrations making it difficult to check the translation of the seal; this is the case with some of the clay balls found at the site of

Amarna. Furthermore, the lack of information regarding provenance and context create obvious gaps in the record. With key details missing, it is difficult to determine if there are patterns in size and weight between the types. However, the clay balls which do not possess any defining elements are grouped together (Type N). If information should eventually come to light for this group, their category can be changed to a different type.

The limitation of provenances has been given more fluidity than other aspects, as clay balls found outside of Egypt will still be considered, assuming that these can be conclusively connected to Egyptian culture. For example, ball no. 117, which was found at the site of Beth Shan, Israel, is considered to be Egyptian as it was found at an Egyptian temple and had an Egyptian hieroglyphic seal impressed upon it. Although finds from outside of Egypt were not specifically searched for, some examples with clear Egyptian origin have been included in the database.

As stated, only clay balls dating to between 5300 B.C-A.D. 395 were collected starting with the beginning of the Predynastic period and ending at the conclusion of the Roman period to encompass the complete period of ancient Egyptian culture. Examples of the clay balls from as late as the Roman period have been allowed because, although there is considerable influence from both Greek and Roman culture in Egypt at this time, there are still remnants of the ancient Egyptian culture practised by the indigenous people and that were adopted by the new occupants of Egypt (such as the use and adaption of cartonnage in Roman burials) and are noted by the classical writers (for example Herodotus II, 65 and Diodorus 1, 83).

Throughout the thesis ethnological examples, both ancient and modern, will be referred to, in an attempt to illustrate how cultures can perceive and interpret different aspects of life, and how they socially process these events, for instance, ageing often accompanies rites of passage. However, these examples will not be used as direct correlations in this thesis, as

their locations, dates and cultures will be vastly different to the ancient Egyptian examples; a limitation in itself.

Despite these limitations the database has been constructed that represents a solid basis for a selection of different types of clay balls that have survived. In time further additions can be made to it, particularly as excavations progress. It is my intention to pursue this research further in the future with a much wider geographical scope. However, for the purposes of this thesis the present quantitative database will provide a sufficient amount of information.

1.6. Previous Scholarship

As mentioned, there has been limited research on the clay balls of ancient Egypt. If the clay balls are mentioned, the discussion tends to be brief. The more extensive articles dedicated to the artefacts generally focus on those which contain hair and have no decoration present on them (Arnst 2006; Blackman 1925; 1927: 84-87, 290; Crompton 1916). The clay balls with engraved inscriptions have been explored somewhat by scholars (see James 1996; Garstang 1904; Peet 1913, 1915a, Peet 1915b) but not to any great extent, and those with seal and holed impressions have had little substantive research conducted upon them (see Tassie 1996; Stevens 2007).

This review of previous scholarship is arranged in chronological order to show the development of the research undertaken regarding the clay balls from Garstang (1904) up to the most recent scholarship by Stevens (2007). However, it is important to note that the only works referred to in this chapter are those which attempt to analyse the clay balls or investigate the signs which appear on some, no matter how brief. As a consequence,

excavation reports which only refer to the finding of a clay ball, but no further details were provided, will not be included in this section.

Garstang in *Tombs of the Third Egyptian Dynasty at Reqaqnah and Beit Khallaf* (1904) is the earliest mention of the existence of the clay balls, and provides a brief examination with only a few short paragraphs supplying details and provenance of the artefacts. Drawings (1904: pl. III) and notes were made, but the type of script is not identified, although Garstang did guess and suggested that, if they were hieroglyphs, then they could possibly spell out “*seten rekh*” (but does not provide a translation of this transcription),⁷ with the figure of a crocodile beneath (1904: 59). Nor does he provide an argument as to why he believes the transliteration to be so. A full study of this translation can be found in Chapter 6. The recording of the ‘reticulated pattern’ (1904: 59), the inscription itself, and being found in a burial, all contribute towards these balls bearing a striking resemblance to those found later by Peet.

Garstang does make a vital observation which may prove significant to the analysis of the clay balls, namely that the artefacts were found in a north-west corner of mastaba 50 (Garstang 1904: 32). This simple fact may later prove significant to the interpretation of these artefacts, as cardinal points hold symbolic importance in ancient Egypt (discussed further in chapter 4). For instance, the magical bricks found in some tombs are specifically placed in the cardinal points of the burial chamber (Roth and Roehrig 2002: 122) in order to protect the deceased’s body during its rebirth (Roth and Roehrig 2002: 132-33). The cardinal points may have been crucial in the process of rebirth, and the placement of the clay balls in the north-west corner may have been a deliberate act associated with this process.

⁷ A full discussion of what this transliteration may mean can be found in chapter 6.

Peet noted in *Cemeteries of Abydos* III (1913) the potential significance of the clay balls. He analysed the balls found within mastaba 124 at Abydos in some detail, noting that they were covered in stamps and that the hieroglyphics upon the artefacts must have been inscribed whilst still wet (1913: 20). Later, Peet found these artefacts intriguing enough to write a paper specifically about them in 'A Remarkable Burial Custom of the Old Kingdom' (1915a), where he investigated the inscribed hieroglyphics further. In addition, he also noted the significance of the presence of papyrus and reed (1915b: 253). The grid design visible on most of the clay balls at Abydos by Peet is described as an 'impression of a reticulated seal, probably a cylinder'. He went on to detail how and when the design appears on the clay balls (1915a: 8).

Peet also described the material of the clay, providing further information of additions made to the clay, as well as determining the clay type, such as Nile mud; although the method for how this was determined is not included in the article. He also broke open three of the clay balls and discovered that two of them contained pieces of reed and the third held a small piece of linen (Peet 1915a: 8). This information is crucial to understanding the purpose of the clay balls. Peet was apparently unaware of any clay balls containing hair as he did not mention them. Yet, he was aware of some balls similar to those from Abydos found by Garstang at Reqaqnah, but these were unopened so the contents, if any, remain unknown (1913: 20; 1915a: 9).

Peet did not attempt to determine the purpose the balls had. He believed it to be "foolish to dogmatise with regard to the purpose of these objects" and simply states that they were probably connected to a magical funerary rite (1915a: 9). Later, however, he published a note (1915b) updating his view on what the purpose of these balls might have been. He

relied primarily on Dr Griffiths'.⁸ Dr Griffiths suggested that the inscription on these balls reads *htm*, meaning 'to make a contract', and put forward the theory that they were used in a contract between a priest and the deceased to ensure that the daily offerings would continue to be provided. Peet reported that Dr Griffiths also surmised that the number of clay balls would have corresponded to the number of contracts agreed upon (1915b: 253). In Peet's original article (1915a) it was suggested that the inscriptions may have been a hieratic script, which is confirmed in his later paper as an early hieratic form (1915b: 253).

Peet himself does not contribute much to the assessment of the clay balls, but does inform further studies by commenting upon the contents of the clay balls, and claims that some not only contain papyrus reed but also pieces of papyrus "paper" (1915b: 254), which may further support Dr Griffiths' theory of a contract. There is no confirmation of whether it was possible to tell if the papyrus had been written upon or not, and the lack of further information, such as a direct reference to the specific ball that the papyrus was found in, means that the location of this artefact is now unknown to us.

Another assessment of the clay balls was by Winifred Crompton, who only wrote a brief note explaining two clay balls in Manchester Museum (1916). Crompton compares these balls to those found in Abydos and refers to Peet's articles (1915a; 1915b). Observations were made about the similarity in size and materials. Crompton additionally drew attention to the difference between the clay balls kept in Manchester Museum and those found at Abydos, noting that the latter are inscribed and contain materials such as linen or papyrus. Whereas, conversely, the former were found with no inscriptions and contained human hair. The hair found within some of the artefacts were classified by Crompton as 'apparently infantile'. Moreover, she determined the unbaked artefact to be made of Nile mud mixed with shell, but she gave no explanation as to how she came to this conclusion.

⁸F.Ll. Griffiths was an expert in hieratic and accurately transcribed and translated many difficult cursive texts (Bierbrier et al 1995: 227).

It was also noted that on one of these balls a small piece of linen is attached to the outside (Crompton 1916: 128). This is difficult to confirm as I was only permitted to examine one of the two clay balls, which did not have any linen attached to it.

With regards to the provenance of these artefacts, Crompton stated with some confidence that, despite the clay balls not being recorded in the published list of contents found in the tomb (mastaba 124), the artefacts would have initially come from the original tomb group found by Petrie at Lahun, as Manchester Museum had always been careful to keep the contents of such groups together. The clay balls Crompton wrote about date to the 20th Dynasty, based upon Petrie's dating of the tomb group with which they were apparently associated. Crompton, thus, heavily relied upon the competence of the museum staff at the time (1916), but without further proof from the excavation reports, the date and provenance of these artefacts must be approached carefully. As to the presence of other clay balls found on other sites, Crompton relied on the information provided by Dr Elliot Smith, who apparently knew of no other examples other than those previously stated by Peet (1916: 128). Peet, however, does mention other clay balls found by Garstang at Beit Khallaf (1913: 20, 1915a: 9), but Crompton does not address those artefacts (1916: 128).

Blackman, after reading about the clay balls in Peet (1925: 65), was successful in finding a modern Egyptian comparison of such paraphernalia. She described in great detail in her article *An Ancient Egyptian Custom Illustrated by a Modern Survival* (1925), a ritual that took place (1925: 66-67) in modern Egypt by the Fellahin. She explained that in the 1920s hair was placed in a clay ball as a way of a mother giving thanks to a saint or a sheikh (depending on whether the parents of the child were Copts or Muslim) for the birth and survival of a son (1925: 67). However, it is surmised from her ethnographic study that 'there is no special age for the hair to be cut' and that such ceremony takes place when the father of the child could afford to conduct the ceremony. Blackman also explains the ritual

by including further details of where on the strand the hair was cut, who cut the hair, what offerings were made, and which foods were included in the feast and ceremony that followed (1925: 66).

Blackman argued that it was likely that the ancient Egyptians created the clay balls for the same purpose (1925: 65-67). There is strong evidence to support her argument; however, this is dependent on the accuracy of Crompton's statement in her initial conclusions that the hair in the ancient clay balls belonged to a child, upon which Blackman based her own argument. However, it is worth considering whether this ritual may have significantly changed in 3000 years, especially due to the vast political, cultural, and religious changes that occurred in Egypt during this time. In addition, there is a distinct lack of research on those clay balls which do not contain hair.

James discovered clay ball artefacts from Beth Shan, Israel (formerly Palestine), and these have been included in this study due to their obvious Egyptian nature. James classifies them as 'model bread offerings' (1966), but he made no comprehensive study of them. James' reason for this classification is possibly linked to one of the balls possessing a hieroglyphic impression of *imenyt* 'daily offering' (1966: 324). On the other hand, his work is useful because he provided information about these artefacts. He included photographs, drawings, artefact numbers, documents which have been published, and described the impression on each ball and translated them (1966: 324-325).

Tassie's study of the clay balls in *Hair Offerings: An Enigmatic Egyptian Custom* (1996) is primarily focused on the ones that contain hair, and discusses different ancient and modern parallels for the use of hair as an offering. Briefly, he explained the presence of the inscribed clay balls from Abydos which contained other materials, and said that had the clay balls been better recorded a link may be established between the two forms. He did remark the clay balls found in Amarna which possess seal impressions, but believes that

these balls do not have a known provenance. While this is the case for some of those from Amarna, there are many which do have a known provenance, with some being found in bedrooms.

Furthermore, Tassie neglects to mention those clay balls found in Amarna with distinct patterns of indentations; this form of decoration needs to be examined as it may draw important parallels to other artefacts, which could aid analysis. If more study were focused on analysing the meaning of these differing decorations, together with further studies of the seal impressions, the potential link between the decorated balls and those containing hair could be made.

Tassie is clear in his methodology for his approach in understanding the purpose of the clay balls from ancient Egypt by using a 'holistic archaeological approach, which combines both ethnographic and ethnohistoric evidence' (1996: 59). To begin with he explored the evidence for hair offerings in ancient Egypt itself and argued the cutting of the 'sidelock of youth' was a rite of passage from childhood into adulthood. The hair would then be made as an offering to the god Horus. The name of the ceremony is provided ('the tying around of the fillet') and links to the mother goddess Isis are made (1996: 59), but there are no further details of where the evidence for this ceremony is found and to what period it is dated. This lack of information makes it difficult to determine if this ceremony was conducted throughout Egypt's history and this could provide a valid theory for the clay balls containing hair, or whether the ceremony is only recorded during the Hellenistic period of Egypt when the cult of Isis was particularly popular (Witt 1997: 20). The absence of clay balls from the latter period could suggest that the 'tying of the fillet' ritual is not associated with the clay balls. However, this theory will be explored below, alongside a discussion regarding the type of hair (chapter 5).

To further this theory Tassie draws attention to statements made by the classical authors Herodotus (II, 65; Godley 1960: 353) and Diodorus (I, 83; Oldfather 2004: 283), who both referred to an Egyptian hair-cutting ritual where a child's hair would be cut and then weighed against silver. The weight of the silver is then paid to the 'keepers of the sacred animals' by the parents in thanks for particular gods protecting their children from illness. Tassie thus links this hair cutting to the cutting of the sidelock of youth at the age of three (1996: 62), however, it is not clear why he suggests this age.

Naming ceremonies as a basis for hair offerings are also suggested by Tassie, by inferring that those whose names contained the name of a particular deity would have their hair cut and left at a shrine of the god (1996: 62). There is, however, no archaeological evidence provided by Tassie to support this statement; although he suggests that perhaps Herodotus had witnessed such a ritual with an animal god as a focus and this is the experience which the historian informs us of⁹ (1996: 63).

A variety of modern ethnographic parallels of hair cutting rituals are examined by Tassie and, whilst some reflect possible social connections with hair in ancient Egypt, the focus of the study is only that of children. His focus, like Blackman's, was based on Crompton's statement that the hair inside the clay balls was 'infantile' (1916: 128). By following the line of argument Tassie has limited his research of the clay balls and any ethnographic parallels, which may have occurred in relation to adult rituals.

Tassie had a variety of theories concerning these objects, and he discusses the association of hair with death rituals, including depictions of a mourning woman with dishevelled hair and words associated with death such as 'mourn' *ibkb* (Lurker 1980: 56; Gardiner 1957:

⁹ 'Townsmen in each place, when they pay their vows, make prayer to the god to whom the animal is dedicated, shaving the whole or the half or the third part of their children's heads, and weighing the hair in a balance against a sum of silver; then whatever be the weight in silver of the hair is given to the female guardian of the creatures, who buys fish with it, cuts them up and feeds them therewith. Thus is food provided for them' (Herodotus II, 65; Godley 1960: 353). This will be discussed fully in chapter 5.

618) and 'widow' *h3rt* (Gardiner 1988: 586), which possess hair determinatives (1996: 65; discussed in chapter 5). In the ancient Egyptian world infant mortality was high (Tyldesley 1995: 79; Janssen and Janssen 2007: 19-22)¹⁰ and disease was rife, so death was more common. In this sense, Tassie does attempt to analyse a variety of age groups associated with hair rituals, but further investigation into childbirth, marriage and reproduction is needed and will be addressed in this thesis. The possibility of the clay balls serving as a rite of passage for children will be discussed, incorporating Tassie's suggestions, in addition to ethnographic parallels.

In relation to death at a young age, Tassie also examines the balls' association with fertility and rebirth, which he links with the creation god Khnum and his moulding of life on his potter's wheel using clay. Such symbolism is also associated with hair, as it continuously grows in life and becomes an appropriate offering to the deceased to assist in rebirth. Tassie lists a few examples of hair offerings in ancient Egyptian graves and suggests that the examples of hair offerings made in clay dishes may be the origin of the clay ball artefacts, with both the materials of hair and clay invoking the process of rebirth (1996: 61).

Hair offerings have also been found at the Hathor shrine at Mirgissa and he suggests that this form of votive offering may have been made by illiterate lay people as a personal expression of their worship of the goddess (1996: 62). There is substantial evidence linking Hathor to hair (Fletcher 1995: 71, 190; Staehlin 1978: 77-79), and thus to hair offerings, but possibly due to length restraints of this article Tassie does not explore these.

For the clay balls containing hair, this article is a thorough theoretical exploration of rituals that they may be connected to. These theories have some strength, but if the constrictions

¹⁰ This is evident from the amount of spells and artefacts (such as amulet cases and apotropaic wands) used to prevent diseases and deflect evil forces (Janssen and Janssen 2007: 8, 19-22). A large number of newborn babies have been found boxed up under the floor boards of homes in the town of Lahun, and a cemetery at Deir el-Medina has over one hundred children buried in baskets, boxes, chests, coffins, or even jars and amphorae (Janssen and Janssen 2007: 19). This extent of loss can further indicate the reality of a high infant mortality rate in ancient Egypt.

placed upon the author had been lessened, a more thorough examination of the evidence would have provided a stronger argument. Further research into the clay balls not containing hair and with decoration on the outside may have delivered further support for some of Tassie's theories.

Caris-Beatrice Arnst's work *Nilschlammküle mit Haaren* (2006) is specifically directed at the clay balls found to be containing hair and particularly focuses her research on the artefacts' possible connection to children, as first suggested by Crompton (2006: 10). Unlike other scholars, Arnst uses the process of hair morphology to confirm that the hair in the balls she examined did belong to children. The hair samples were cut and not torn from the head, which meant that Arnst was not able to test for sex or precise age, due to a lack of a follicle, but the use of hair morphology allowed a determination to be made. Using two forensic investigators from the Institute for Police Technology of the Berlin State Police, who were experts in hair analysis, Arnst was able to determine that, due to the fineness and curl of the hair, the hair found inside the balls did originally belong to a young child (2006: 10).¹¹ Whilst conducting my research, I was able to touch the hair myself, and I agree with their assessment as the hairs were not coarse enough to come from an older child on the cusp of adulthood.

The clay balls impressed with seals are briefly addressed by Arnst, who suggests that the magical significance of the designs were strengthened by the inclusion of hair (2006: 18). Contrary to this argument, there are currently no balls known which possess both seals and hair. Yet, if with future study an impressed ball containing hair is discovered, this argument would have validity due to the magical significance of hair in both ancient and modern cultures.

¹¹ (Arnst 2013, personal communication, 8 August).

The discovery of clay balls within the home, and their possible apotropaic use, are explored by Arnst, who then links this use to the clay balls found in tombs. Arnst suggests that the clay balls found in bedrooms may have been kept under beds as a method of repelling evil forces whilst the owner slept. Such protection was often invoked in funerary artefacts, for instance the letters to the dead (written to make a request to one's ancestors), providing a potential link between the clay balls found in homes and those found in tombs (2006: 17).

Arnst provides a concise summary of the previous theories of scholars regarding the clay balls, and explores the magical use of hair and provides both ancient Egyptian examples and modern ethnographic parallels. One such example is the *'aqiqa* ritual, which was the first haircut of a child and Arnst explains the ritual significance attached to it (2006: 14). She provides details of the Arab version of this ritual, which creates a bond between children and god to ensure success in their lives, and compares it to an ancient Egyptian ritual (2006: 14), similar to the ritual reported by Blackman (1925). Arnst concludes that the modern Egyptian ritual detailed by Blackman is the remains of a Pharaonic ball ritual involving the cutting of children's hair (2006: 18).

A database is provided alongside Arnst's article, which provides details of the clay balls she discusses with full details of the seal impressions found upon them and the contexts they were excavated from. Nevertheless, the database is misleading as it claims to be a *'Tabellarisches Verzeichnis aller bislang bekannten Haarbälle'* (2006: 19), but only six out of the seventeen balls included are actually known to contain hair. The rest of the clay balls have unknown contents.

Anna Stevens' *Private Religion at Amarna: The Material Evidence* (2007) has a list of many of the balls found from Amarna excavations, and a database on a selection of artefacts provides further details, such as decoration. The database includes the provenance of the artefact, a translation or interpretation of the seal designs and any comparative seal

designs. There are only a few examples of impressed seal designs, whereas some have not been included. The reason for this selection is not clear, but it is likely that Stevens wished to portray a varied sample of the types of seal found on the clay balls (2007: 114), rather than a conclusive database.

There are a few mistakes within Stevens' database, mainly caused by conflicting statements between museums and excavation reports, but these can be found rectified in the database of this thesis. Corrections are made using the excavation reports and the original registration cards for the artefacts, as well as checking that the artefact number on the clay ball itself corresponds to them. In addition, the Amarna database (also edited by Stevens) has proven useful to ensure the corrections are accurate, but in some circumstances the Amarna database itself contained a few errors. This process of verifying the details of the clay balls has been followed as it is possible that the information processed and published by the museum could have been incorrectly recorded.¹²

The most thorough research conducted thus far, Stevens exhibited the wide range of different clay balls found in Amarna and provided ancient Egyptian parallels, which widened the research on the clay balls significantly. For example, balls of resin with depictions of goddesses Sekhmet and Wedjat (2007: 113; Lefebvre 1903: 229-230) and, later in the book, Stevens surmises that the use of royal names may have served a votive function (2007: 286). Both of these theories will be researched further as this may provide supplementary evidence into the potential purpose of the clay balls.

The primary missing component of Stevens' research is an analytical study of the artefacts themselves. However, the nature of her research does not permit this level of examination. Regardless, Stevens is able to draw upon some potential magical symbolism related to the

¹² This corrected information has been shared with Dr Anna Stevens, who has used it to ensure the Amarna records are correct (Stevens 2014, personal communication, 11 November).

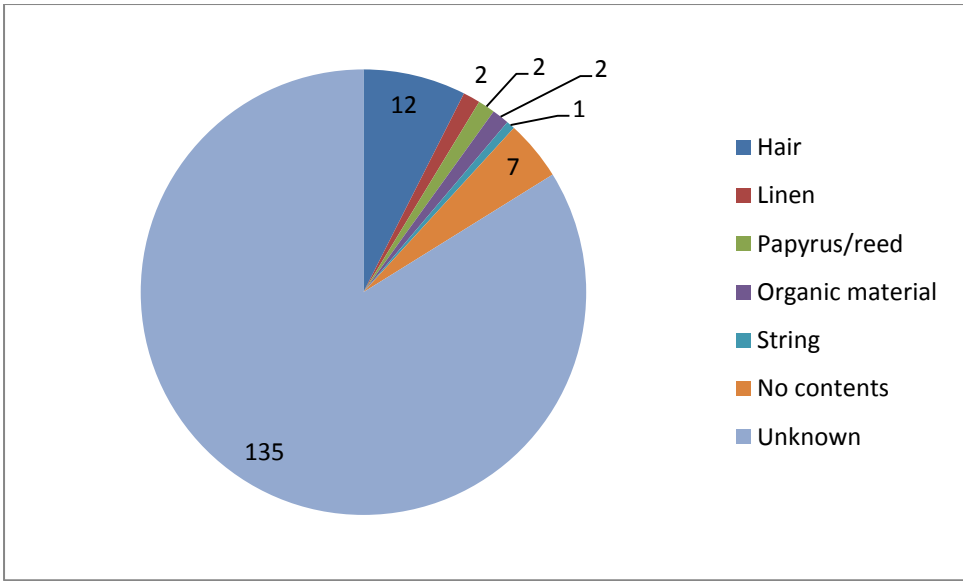
use of clay balls in rituals, specifically the 'hitting of the ball' ceremony (2007: 113), where the king is depicted striking a ball, which represents the eye of the evil entity Apophis (Borghouts 1973: 122), with a stick to destroy it (Kousoulis 2002: 154), a theory which will be addressed later in this dissertation.

Although this is the most thorough report to date on the clay balls at Amarna, the localised focus of the paper can cause a disillusion as the clay balls can be found across Egypt, in different forms of contexts and from several time periods. This would especially affect the 'hitting of the ball' ritual, which is dated from the 18th dynasty to the Ptolemaic period only (Stevens 2007: 113), and so this explanation would not account for those found from sites as early as the 5th Dynasty.

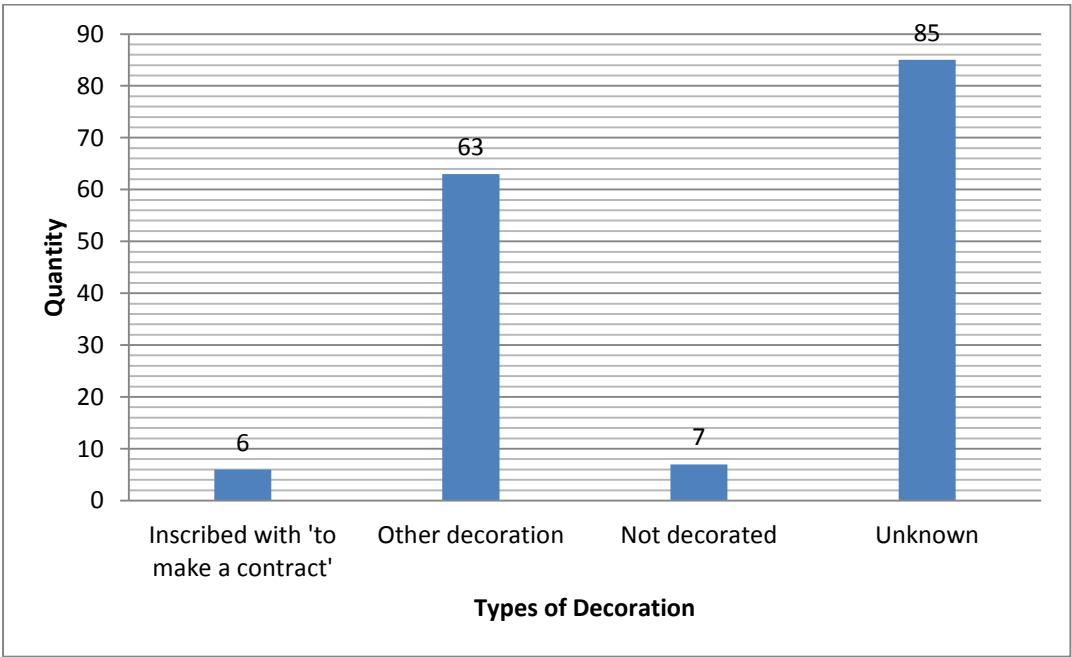
Overall, it takes time for scholars to pay significant attention to the clay balls, but Blackman and Tassie have not questioned Crompton's proclamation of the hair belonging to a child, and do not support their conclusions with substantive research. Hair morphology studies have been conducted by Arnst, but the limited sample examined does not provide proof that the clay balls were exclusively connected to rituals involving children. This research will fully explore this aspect to confirm or dismiss more definitively whether this was actually the case, thus, allowing the conclusions based on children to be classified as plausible or not.

All of the theories presented have potential as the possible function for the clay balls and all will be examined in more detail later in the thesis. The majority of the previous scholarship has been focused on the clay balls containing hair and those inscribed with the phrase *ẖtm* 'to make a contract', but little attention has been paid to the many other clay balls which have been excavated. Graph 1 shows the ratio of clay balls containing hair in comparison to those which do not, and Graph 2 shows the proportion of balls possessing

the phrase 'to make a contract', with the other forms of writing and decoration present on the clay balls:



Graph 1: The Contents of the Clay Balls



Graph 2: Clay Balls inscribed with 'to make a contract' in comparison with other decorated balls

Graph 1 clearly shows that the focus of study on clay balls has been biased towards those containing hair and does not take into account the other artefacts, which make up 92%

(145 balls) of those found. To build upon previous research this thesis will expand on the prior use of databases with one large database recording all relevant information and a typology of artefacts by their similarities will also be included (chapter 2). Graph 2 clearly shows that there are many decorated balls which are not inscribed with *htm* 'to make a contract' (Group A), highlighting the bias that previous study has placed on such a small proportion. As a consequence, the other decorated balls will be substantially analysed along with the materials used to create them, paying particular attention to the symbolism being portrayed through the decoration and materials. A detailed discussion of specific rituals and spells, which mention clay balls, will be included to gain a better understanding of domestic and popular rituals and traditions.

The typology can be used for future research and, as further information is acquired, archaeologists in the field will be able to easily identify which type of artefact they have discovered. Establishing this typology enables the research of this thesis to explore varying elements and opens up the reader's mind to the possibility that the clay balls may have served more than one function. The characteristics of each grouping can be used to guide these identifications and to classify easily which clay balls are associated with each function.

The structure of this thesis will be as follows chapter 2 will build upon this current chapter by introducing the specific clay balls that are included in this study and will discuss the typology devised for these artefacts, drawing attention to the similarities between groups of clay balls. This will form the basis for the analysis which will take place in the rest of the thesis. Chapter 3 will consist of general information regarding relevant periods of ancient Egyptian history and to explore the specific find sites where the clay balls were found. Further to this, a determination of what the ancient Egyptians used seals for and a discussion about the differences between state and popular religion will be included.

Chapter 4 will explore the use of apotropaic rituals, and will specifically focus on monumental examples, such as the 'striking of the ball' and the throwing of the ball rituals, in addition to looking at spells found on papyri and offerings to the gods, which could indicate a lay person's use of the clay balls, which are primarily found in domestic contexts. Chapter 5 examines the symbolism with death and rebirth in ancient Egypt, to consider those clay balls which were found in burials, and discusses these themes in conjunction with the ancient Egyptian concepts of fertility. This will entail the examination of the symbolism of clay, hair, and the decoration, as well as determining how birth, the divine solar birth, and rites of passage are portrayed. Chapter 6 focuses on the theory that the clay balls may have been a form of token, not unlike those used in Mesopotamia around the same time, and explores how it may have been similarly used as a receipt or evidence of contract either in trade or in the mourning process, based on the inscription found on seven of the clay balls which literally states 'to make a contract'.

The fragile nature of the clay balls, caused by the composition material, makes it unlikely that they served an obvious practical use, such as a ball for sports, for it would easily break (a full discussion of this can be found in chapter 4). It is therefore appropriate to deduce that the more likely purpose of the clay balls was to contribute to a symbolic ritual, which could have been considered a practical function to the ancient Egyptians. It is possible that they may have believed that the symbolic role of the clay balls did effectively aid their life.

A focus on the symbolism of the materials and decoration present can be found within this thesis. Due to the differing elements between the clay balls, which will become more apparent as the thesis progresses, it is likely that they served a variety of purposes depending on where they were found, what period they belonged to, what material is found within them, and how they were decorated or inscribed.

1.7. Conclusion

Overall, this thesis will strive to detail how there are distinct patterns between the clay balls, which justifies the typology as it stands, and then will show how each type served a different function. It is too narrow-minded to believe that all of the clay balls in this database served exactly the same function, when they vary significantly in their decoration, content, context, provenance and date. There is substantial evidence to suggest that the clay balls from Amarna that are decorated served an amuletic function which could have maintained cosmic order, in addition to providing protection in a domestic context, and were closely connected to the concepts of fertility and rebirth. There is also evidence that hair clay balls from the same sites could have been an example of a rite of passage, whereas hair clay balls from a funerary context could have been a symbol of mourning, and clay balls found from early funerary sites were inscribed and contained papyrus and linen could have been tokens or contracts. The ambiguity of the clay balls and their differing characteristics means that we should not be static in our interpretations and must be open to the idea of multi-functionality, or change of function throughout its uselife.

As a result of these conclusions, the research conducted in this thesis will contribute to our understanding of the ritual practices of the ancient Egyptians in protection of life and death, rebirth and fertility, how rituals transferred between monumental examples to those used in the home, expressions of mourning, how they communicated with the dead and the gods, and economic practices. It will additionally contribute to our comprehension of the symbolism within ancient Egyptian culture, not just from hieroglyphic signs and words, but also from the material the clay balls are made from, moreover the contents within them and the ball shape itself.

CHAPTER 2- THE CLASSIFICATION AND EXAMINATION OF THE DATA

2.1. Introduction

The data gathered using the methods outlined in the introduction will be the premise for this chapter. It will explore how the data relating to the clay balls has been organised for the purposes of this research and then how the artefacts have been classified for analysis and comparative discussion. This information is crucial for determining the function of the clay balls, which is the primary research question of this thesis.

Outlining how the data was collected and organised in the database will be the first discussion point, because it is the foundation for the research that has taken place in this thesis. The database also aids in the classification of the clay balls, which in this case takes the form of a typology which allows clay balls with similar characteristics to be compared. Each type in this classification will be discussed including information regarding similarities of the clay balls within each type.

The following section will take a closer look at the material of the clay balls themselves. Next the focus of many previous scholars' research, the hair found within some clay balls, will be examined in much closer detail than in the introduction. This is important due to the argument that the hair had belonged to children, which will have an effect on the interpretation of the artefacts' function. The remaining section will consist of a comparison of the data gathered specifically regarding the contents and decoration of the clay balls and how these are affected by different factors, such as geographic location and period of time. This will include graphic representation of the data to outline clearly where patterns arise and where they do not.

2.2. Database

The database of this study consists of a number of key elements which provide details on numerous components of the clay balls, allowing one to compare these aspects of the artefacts and generate a detailed and accurate typology for them. For the main database (Appendix 1), all possible elements of the clay balls have been included to provide a full and concise record of everything that is known about each ball from excavation reports, registration cards, artefact databases, museum records, etc. Information contained in the database is used throughout this work to support the arguments presented.

Returning to the main database, firstly, the database provides a 'Ball no.', created by myself to help the reader identify which artefact is being referred to. These numbers have been designated in no specific order, because the information was continuously added to when it was discovered in my research. It was impractical to use museum identification numbers for reference in this thesis since not all the clay balls are stored in museum collections. Neither was it possible to base the numbering system on excavation numbers, as many of the clay balls have not been published and do not have artefact numbers. Nonetheless, if the object had museum identification and/or artefact identification number, such as those at Amarna; these are included in the database for the readers' convenience. Along with this, the name of the museum where the artefact is held is also supplied, if known. Unfortunately, due to the nature of early excavations and museum records the present locations of ninety of the artefacts remain unknown, despite my attempts to locate them.

Also listed in the database is the 'provenience', which refers to the site where the artefact was excavated. If the 'context' was provided more specifically, it was possible to give the archaeological context of the objects, such as a dwelling or a tomb. The dating included in the collection is significant because it provides us with further information about the use of a context in that time period. For instance, burials in Lahun from the 12th Dynasty were

subsequently reused in the Late Period (664-332 BC; Quirke 2005: 113, 121). This could explain the unusual presence of clay balls found in later burials. It is possible that grave goods from the earlier burials were accidentally, or even deliberately, incorporated into the later period ones. In general, however, the dates can show us the extent of time the clay balls were used. Similarly, the location also illustrates how geographically widespread the clay balls were used throughout ancient Egypt.

A breakdown of the physical characteristics of the balls is also given: diameter, weight, and content, which assist in the establishment of types and their potential purposes. It also provides general information about the size of the artefacts. Colour, too, is recorded as a form of decoration, and in conjunction with classification systems, I will determine the type of clay used to produce them. A full discussion of this can be found in the following chapter. The type of clay is important, as it provides further details of the availability of the material to the producer in relation to where he/she resided. The fabric, itself, might have had its own symbolic meaning, something which was explored by Harris (1961).

A record has been kept of any other forms of decoration, including writing, seal impressions, inscribed designs, and paint washes or slips. The transliteration and translation of any script or hieroglyphs are included in this thesis, where possible. In addition, how the writing is placed on the ball is recorded, whether painted, inscribed or stamped, because it could be significant for their interpretation. The number of seals have also been counted and recorded in the database to establish whether there are any patterns of in the number of seals present on the clay balls. For instance, the repeated use of a specific number of seals may reveal that the number of seal impressions made on a ball held a particular significance. Some of the clay balls have a consistent circular shape of indentations pushed into them. The number of these indentations has been recorded, but

as previously mentioned, I was unable to see all of the objects, so I am reliant on the information provided in their publication and/or museum record.

In cases where I had the opportunity to examine the artefacts, I was able to record the number of fingerprints. This was done to see if it was possible to identify prints and to determine whether these were deliberate marks to identify the producer. They can also inform us about the production method used, such as being moulded or rolled between palms. Any additional information which was deemed significant, such as errors made by museums or the physical conservational state of the balls, has also been recorded in this database.

As previously mentioned, there is a limited amount of research on the clay balls and the majority of these studies focus on those found to have hair contained within them, despite the fact that more clay balls have been discovered with seal impressions and unknown contents. I have determined the correct proportions in the section below and throughout the thesis will give appropriate attention to the decoration found on the clay balls with unknown contents, as well as addressing the previous theories regarding those containing hair.

2.3. Classification of Clay Balls

Typological schemes can be used to designate artefacts depending on colour, size, shape, decoration (Hurcombe 2009: 55), the material of composition, and so forth, where attributes are firmly established and can facilitate sequencing. This form of classification for the clay balls is by no means a rigid system, but is more appropriate to be considered as a general categorisation (Shanks and Hodder 1995: 9).

On observation, it transpired that the artefacts could be classified, according to the decoration present on them, and then where appropriate, have been further separated according to context, date or contents. The varying forms of decoration are a simple marker for distinguishing the differences and similarities between clay balls. For those artefacts without decoration, there are other available elements, such as contents, which allow them to be classified according to corresponding similarities. It is worth noting, however, that these categories are based on etic characteristics and do not necessarily reflect how the ancient Egyptians may have categorized them, if at all. Many forms of typologies are etic (being classified from an outside perspective), as the producers are no longer living and may not have recorded how they would have classified their products (Hurcombe 2007: 58). With so little known about the clay balls, an etic typology was the only option, but it is a flexible construction, making it possible to locate certain emic (perceptions from inside the society) meanings held in the decoration.

The differences in the clay balls are evidently complex, which means they constitute a wide variety of the artefacts, from various periods and provenances, with different decorations occurring each time. To use the typological seriation for the classification of the clay balls would also imply that they all served the same original purpose, when this may not have been the case. Thus, a typology works more efficiently in separating and understanding the artefacts according to similarities, as opposed to viewing them as just one type of artefact.

The wide range of variety in decoration, contents, contexts, size, weight, time period and locations, makes it likely that each type may result in a different interpretation. For instance, those found in residences could have been used for an entirely different purpose to those found in burials. The decoration could also be evidence of differing purposes, such as those with seal impressions used for amuletic function, whereas those with holes could have a connection to fertility rituals. Decoration is an obvious external factor when

compiling a typology and is more consistently recorded by museums and excavators than any other detail of the artefacts. The differing forms of decoration (inscriptions, seal impressions, paintings) allow for subtypes to be made.

Other difficulties with the typology are that due to the many variables and missing information there are occasions when balls could qualify for more than one category in the typology. There are two clay balls which have been placed in two types (ball no. 9 and 37—these will be clearly indicated and cross referenced within Appendix 2), as they bear similarities to both of the types in which they have been placed, but do not warrant a new type of their own. By noting that there are clay balls which cross over theme boundaries, the typology can draw attention to the fact that many different elements must be considered when analysing the artefacts.

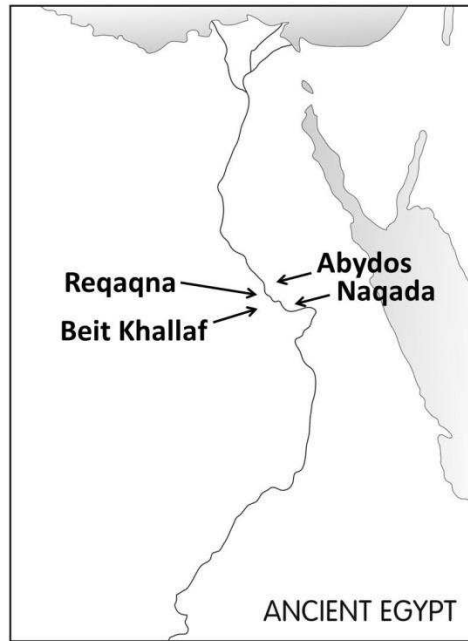
The shape of the clay balls is generally spherical, but there are some which are slightly different in their shape, such as drop shaped (as described by the Amarna database) or a squashed sphere. When this occurs, this is highlighted in the type description. Excavation reports do not always clearly state the shape of an artefact, but although we assume that designated clay balls are spherical, the shape will only be recorded when known. This is to prevent assumptions, but often in excavation reports the more unusual forms of shapes, such as drop-shaped, are noted. These are included in this database as they retain enough of a spherical shape to be classified as balls.

Weight was considered an important element of data which needed to be collected because it may have proved indicative of whether the clay balls were hollow, solid, or contained a material within it. However, a hollow clay ball may be evidence of an encapsulated organic material which had since disintegrated. Additionally, the weight may indicate a particular use of the artefact, such as Parkinson and Quirke's suggestion that the clay balls may have been used by scribes as a weight for holding papyrus flat (1995: 35);

although some of the clay balls are completely spherical with no flat side to prevent rolling. However, the composition of the clay could equally contribute to these different ranges of weight.

The content is not used as the primary determining factor for the classification of the balls because the contents of 83% of these clay balls are currently unknown. In addition, the discrepancies present in the recorded information about the artefacts, as mentioned earlier with the dispute on hair contents, makes this an unreliable source of information. However, it has been included as some of the clay balls have confirmed contents and this creates clear types in some cases, for instance hair balls from a mortuary context (Type Li) and hair balls from a domestic context (Type Lii).

The typology can highlight the geographical spread, or in some cases an isolated occurrence, of a certain type of ball. For this reason the geographical location is an additional factor for the categorising of clay balls. For example, the inscribed clay balls (Type A) can be found at a number of sites, such as Reqaqnah, Beit Khallaf and Abydos, whereas the geometric painted design (Type K) can only be found at Naqada (Map 2). In addition, the typology of the clay balls can highlight that particular decoration can only be found at specific sites or dates. For instance, the inscribed balls (Type A) are dated exclusively between the 3rd and 5th Dynasties (2686- 2345BC) and seal impressions with hieroglyphic designs can only be found at Amarna and dated to the 18th Dynasty (Type D).



Map 2: Inscribed and Geometric Painted Designs

The archaeological site, as often the case with clay balls, can correspond to the type of context that in which the artefacts were found and the time period to which they are dated. For instance, 78% of the clay balls from Amarna are from a domestic context and dated to the 18th dynasty, whereas the inscribed balls (6% of the total balls) from Abydos, Beit Khallaf, and Reqaqnah are from a mortuary context and dated between the 3rd and 5th dynasties. The typology highlights if balls of a particular decoration are found in a specific context, either domestic or mortuary, as it is possible that these served different purposes depending on whether they were used in life and/or death.

Other factors have contributed to the organisation of the typology. For instance, Type L has been split into two types to show the similarities between hair clay balls found in 18th Dynasty (1550 BC - 1295 BC) domestic contexts and those found in 20th Dynasty (1186 BC - 1069 BC) mortuary contexts. Appendix 2 details a full description of each type, including tables and photographs or drawings of the clay balls which have been classified together.

The classification of the clay balls is based on all of these factors as the decoration, provenance, context, and could all potentially influence the original purpose for the clay balls. For example, if one type of clay balls with a particular decoration is excavated from tombs only, then it is possible an assumption would be made that these clay balls are connected to a mortuary ritual. However, if later a clay ball with the same decoration is excavated from a domestic context, the assumed function of these clay balls will need to be rethought. Thus, the types must be examined separately to understand if they served different purposes.

Based on the information recorded in the main database (Appendix 1) the clay balls have been divided into the following types:

- Type A includes clay balls that are inscribed and have contents such as linen, papyrus or reed.
- Type B includes clay balls which display the name of deities, painted on them or marked by seal impressions.
- Type C includes clay balls which have seal impressions of royal names on them.
- Type D includes clay balls which have seal impressions of hieroglyphic words.
 - Type Di are found in a domestic context from the 18th Dynasty.
 - Type Dii are found in an Egyptian temple in modern day Israel from the 20th Dynasty.
- Type E includes clay balls which have seal impressions with *wedjat* and *nefer* signs.
- Type F is separated into two types:
 - Type Fi includes clay balls with floral seal impressions.
 - Type Fii includes clay balls with specifically lily seal impressions.
- Type G includes clay balls with faunal seal impressions.

- Type H includes clay balls with seal impressions made up of abstract designs.
- Type I includes clay balls with blank seal impressions.
- Type J includes clay balls with a distinctive pattern of circular impressions.
- Type K includes clay balls with painted geometric patterns.
- Type L includes clay balls which have no decoration, but are found to contain human hair. This type is separated into two types due to the difference in dating and contexts:
 - Type Li are found in a domestic context from the 18th Dynasty.
 - Type Lii are found in a mortuary context from the 20th Dynasty.
- Type M includes clay balls which appear very different from the rest of the clay balls and possess a white coating.¹³
- Type N includes all of the clay balls which have no distinguishing factors, either through lack of decoration or known contents.

Type A contains nine clay balls with similar inscriptions, which are all from mortuary contexts from Upper Egypt, and date to an early time period between the 3rd and 5th Dynasties. The inscriptions all appear to have been made whilst the clay was still wet using a pointed implement, possibly a stick or reed. The criss-cross impressions found on ball no. 27 and 75 (appendix 2) appear to make a continuous pattern, suggesting a cylinder seal was used. These criss-cross patterns measuring approximately 1.0 cm in width, were first inscribed on the clay balls, and then inscriptions were etched on top of them. It is possible that these criss-cross patterns served a decorative function, whilst the inscription portrayed the appropriate message. Organic content is another common factor of the clay

¹³ These are all kept in The Oriental Museum, Durham.

balls in Type A, which have reed or papyrus¹⁴, linen and two examples of unclassified organics found inside.

The inscription *h̄tm* translated as ‘to make a contract’, was originally identified and translated by F.Ll. Griffith from the inscriptions found on ball nos. 26 and 27 (Figure 1; Peet 1915b: 253-4). In Figure 2 the drawings made by Garstang are shown, and when compared to Figure 1 (which shows the inscriptions on ball no. 26 and ball no. 27) the similarity is striking. Thus, the translation can also be applied to the balls from Reqaqnah. The presence of figures fighting and a crocodile is only evident on ball no. 76. It is worth noting here that Garstang incorrectly transliterates the inscriptions found in Figure 2 as *seten rekh* (1904: 59) and offers no translation. A full discussion can be found on these inscriptions and their possible meaning in chapter 6.

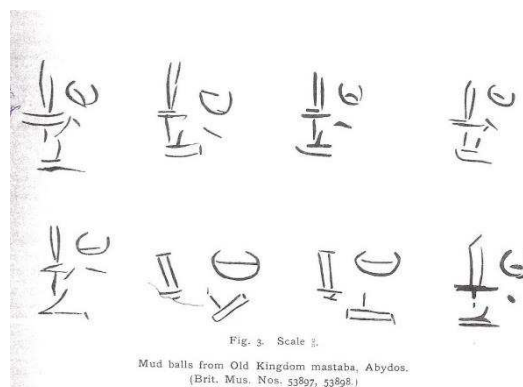


Figure 1: *h̄tm* inscription, later translated by Griffith (Peet 1915a: Pl IV)

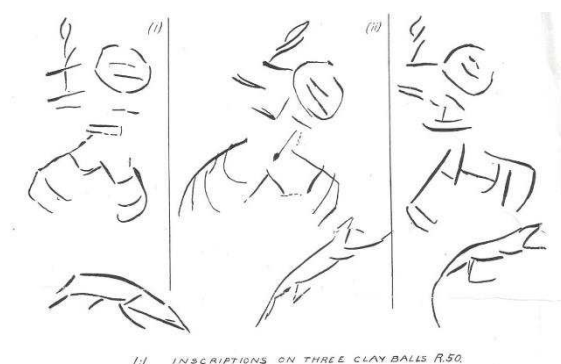


Figure 2: Drawings of a similar inscription by Garstang (1904: Pl XXX)

¹⁴ Whether this refers to raw papyrus, or processed papyrus paper, is not clear from the excavation report.

Only one of the clay balls in this type does not bear an inscription, although the grid seal pattern is present (ball no. 75). The lack of inscription could prove incompleteness, but this is indeterminable. If ball no. 75 had a known context, it may have been that another clay ball would have been found with it, which could have provided further details, perhaps an inscription, and given more clues to this clay ball's function.

Ball no. 123 is placed in this category because it is inscribed, but the inscription is completely illegible and it is impossible to tell whether it states something similar to those possessing the word *htm*. The provenance is at a completely different location (Lahun), the context is unknown, and the ball is dated to the later Middle Kingdom period (2055- 1650 BC). In this sense, it cannot be compared to the rest of the type.

The diameter of Type A is fairly consistent, ranging from 3.54 cm to 5.5 cm, but the weight range is much more diverse ranging from 29 g up to 175 g. This difference is not clear, but does not seem to be a result of corresponding diameter sizes or the contents of the balls, as ball nos. 26 and 27 have distinct weight differences, but both contain papyrus or reed. Despite ball no. 77 being the largest in diameter, the 0.7 cm difference between ball no. 76 and ball no. 123 is too small to provide a sufficient explanation for the 70 g weight difference between the two balls. The composition of the clay fabric or the contents of the clay ball (if any) could explain the irregularity of the weight compared with the other clay balls in this type.

Type B is a collection of four clay balls found with the names of deities either painted or inscribed on them. The deities' names found upon these balls have no obvious correlation to each other. Serket's chief role as a protector of the deceased (Petrie 1972: 50), the solar god Aten, who became the only god officially worshipped during the Amarna era in the 18th Dynasty (Silverman, Wegner and Wegner 2006: 37), and the falcon headed god, which

could either represent the sun god Ra, Horus (the first god-king of Egypt), or Shu, god of the air (Dunand and Zivie-Coche 2004: 350).

Serket's (scorpion goddess) name is painted in black on ball no. 35 in cursive hieroglyphics, which is substantially different to balls no. 37 and 115, which have seal impressions of the deities' names. Ball no. 37 has the name of the god Aten, alongside the name of his patron king, Akhenaten. The deity represented on ball no. 115 is disputable: the figure shown is standing wearing a man's kilt and bearing a falcon shaped head, with the reed hieroglyph before it. A variety of deities have been represented in this way including Shu, Ra and Horus, as mentioned above (Petrie 1972: 39, Pl. XXX). The lack of dating for this clay ball makes it more difficult to determine the god, as the date may have helped to indicate which one was particularly popular at a certain time. Without a name, it is even more difficult to determine who it represented.

Only four balls have been found with the names of kings on them (in the form of a seal impression) and have thus been classified as belonging to Type C, and one of which, ball no. 37 also falls under Type B as well, due the presence of a deity's name. The king's name on ball no. 37 is Akhenaten's praenomen (Quirke 1990: 60-1; von Beckerath 1999: 142-3; von Beckerath 1984: 86). However, ball no. 93 has been identified as Akhenaten as well, although this is most likely incorrect due to a misspelling.

Ball no. 36's seal has been recorded as the name of the king Tutankhamun, but whether this is accurate or which of his names is impressed, cannot be established due to the lack of images or drawings of the seal. Both of these kings belong to the 18th Dynasty, and they ruled from the city of Amarna (Silverman, Wegner and Wegner 2006: 43; Moseley 2009: 203), where all of the clay balls in this category were excavated. The continuous occupation of other cities and towns could have destroyed examples of other clay balls found in domestic contexts other than those at Amarna. Only ball no. 93 has an exact context

recorded: it was excavated in an Amarna home. This cannot be assumed to be the case for the other balls belonging to this type, and will be further discussed in Chapter 4. No evaluation can be made on the correlation of diameters and weights due to the lack of information on these aspects, as is the case for the contents of this type of clay balls.

Type Di are three balls decorated with seal impressions of hieroglyphics which form translatable words, such as *nh* meaning 'life' (*Wb* I, 198), *ms* meaning 'to be born' (*Wb* II, 138)¹⁵ and *imnyt* meaning 'daily offering' (*Wb* I, 83). The clay balls of this type are dated to the New Kingdom, with three being found specifically from the 18th Dynasty, which is typical of the clay balls found with seal impressions on them. These words could be associated if the clay balls were connected to a birthing ritual, where offerings were made to give thanks to a deity for the successful birth of a child, like the ritual conducted by the fellahin as explained to us by Blackman (1925: 67). Ritual offerings connected to childbirth, or the survival of a young child, are common in ancient and modern societies due to the dangerous nature of the procedure (such as the *Apatouria* in ancient Greece and the *'aqiqa* with modern Arabs) and will be discussed fully in Chapter 5. The context in which these balls were found could give support to this possibility. These clay balls are found in residences, where ancient Egyptians were known to have personal shrines to a favoured deity (Stevens 2006: 253).¹⁶

Ball no. 40 on the other hand is clearly shown as an oval seal with an ankh hieroglyph in the impression. It can be concluded that a 'button' seal was probably used to create the pattern. The current location of balls no. 39 and 40 is unknown,¹⁷ therefore it is not

¹⁵ There are numerous translations for *ms*. These will be discussed further in Chapter 6.

¹⁶ This will be discussed in detail in Chapter 4.

¹⁷ The Amarna Database has Chicago recorded as the ball no. 40's current location (www.amarnaproject.com- Accessed 26th September 2012), but the database is based upon records from the 1920's, and after contacting The Oriental Institute in Chicago and The Field Museum of Natural History (personal communication with E. Teeter on 26th September 2012 and W. Parkinson on 16th October 2012) there appears to be no record of this artefact being stored there or any transfers to other museums.

possible to examine or acquire photographs of the artefacts, which leaves the analysis of these balls to be reliant on the accuracy of the registration cards from the excavation.

Alternatively, these clay balls may have served different functions to each other. Particularly as ball no. 39 and 40 have an impression of the word '*nḥ*' on them, which could easily fit into Type E due to its frequent use on amulets (Andrews 1994: 86), but it has been placed in this type because of the literal meaning of the word. These balls are also found specifically in 'bedrooms', which could support Arnst's argument that the clay balls were used to defend the owner against evil forces whilst they slept (2006: 17), as will be discussed in Chapter 3.

Ball no 39 has several seal impressions with an *ankh* hieroglyph, and a circle present in the record drawing represents a hole present on one of the impressions. Unfortunately, the person who recorded ball no. 39 did not include the shape of the seal to allow us to identify what type of seal was used; an oval or rounded impression could suggest the use of a 'button' seal, whereas a continuous pattern would indicate the use of a cylinder seal, but it is worth noting that the latter was not commonly used during this period.

Ball no. 115 and 116, Type Dii, were found near an Egyptian temple courtyard at Beth Shan (modern day Israel), where offerings could have been made (James 1996: 16). They have been separated from Type Di because they are provenanced outside of Egypt and have a differing context as they were found in a temple. James interprets these artefacts as replica bread offerings, based on their inscription *imnyt* meaning 'daily offering' and the shape of the clay ball (1996: 18). Although these clay balls were found in Israel, they have been included because of their discovery in an Egyptian temple, their Egyptian decoration, their similarity to the balls from Egypt, and due to the Egyptian connection with modern day Israel during the New Kingdom (see Chapter 3).

The eight clay balls from Type E are dated to the 18th Dynasty, excavated from Amarna, have unknown contents and are stamped with seal impressions bearing hieroglyphics, which represent a design consisting of a number of symbols commonly used for protection on amulets, as opposed to a directly translatable word. *Nefer*, usually meaning 'beautiful', and *wedjat* (Horus) eyes are the dominant signs in this type and are usually used on amulets (Andrews 1994: 87). With all but one clay ball being found in the context of a residence, and the common use of the hieroglyphics found impressed upon them, it is likely that these clay balls were used for protection.

Type F contains clay balls with floral designs but has been split into two groups to allow more accurate analysis. The defining factors of Type Fi are the floral designs stamped upon clay balls, in addition to being found at the site of Amarna (and thus dated to the 18th Dynasty), in the context of a domestic space. All three of these balls from this type are also very similar in size, ranging from 4.4 cm to 5 cm in diameter.

The precise floral design of ball no. 55 is unknown, but the other impressions found on the remaining two balls have been designated as papyrus designs. Ball no. 46 has two animals depicted flanking a central papyrus plant. Without seeing the seal impressions, or at least knowing the species of the animals it is difficult to say what these designs may represent. Often such designs are stylised, and the papyrus is alternatively depicted as flanking a central design (Ben-Tor, Allen and Allen 1999: 64).

Like those found in Type Fi, Type Fii includes clay balls with floral designs (two in total), but specifically only those found with lily designs. These have been separated from other floral designs due to the presumed differing symbolic significance of the varying plants depicted. The use of the term 'lotus', often used by scholars, is technically incorrect for the lotus did not arrive in Egypt until the Assyrians came in 667 BC (Emboden 1978: 399; Taylor 2003: 353). The flower that Egyptologists usually refer to as the 'lotus' is in fact the blue water lily

(*Nymphaea caerulea*) (Szpakowska 2003: 226) but I will continue to use the correct term of lily. The lily held much symbolic importance in its own right, for it was seen as a plant which embodied life itself, as it not only opened as the sun arose and closed as the sun set, but also grew out of the murky depths (Emboden 1978: 397). From this the flower became associated with rebirth (Emboden 1978: 399) and is often seen depicted in scenes found in tombs. These clay balls are known to come from the site of Amarna, but there is no context available for the artefacts, making it difficult to determine whether the symbolism of the lily is related in this case.

The lily is also extensively used for its aesthetics and can be found decorating many artefacts. As the clay balls are rather simply made, it is unlikely that the clay balls served a purely decorative function, thus it seems more likely that the symbolic function of the lily was more important in this case.

In Type G, other than thematically, these five balls have depictions of fauna from ancient Egypt, but have little in common with one another. All are different creatures that could represent a variety of different deities, as well as symbolising different ideas. The 'flying bird' in ball no. 44 is unrecognisable from the drawing provided on the registration card,¹⁸ and could not be identified by a specialist in ancient Egyptian birds, Mr. John Wyatt.¹⁹ However, Wyatt does suggest that, because the bird appears to be standing erect (only a few species are depicted this way), the drawing could be of a quail chick.²⁰

As previously mentioned in the description of Type Fi, ball no. 46 does bear two animals, which flank a central papyrus design, but with no further details or even a drawing, these species cannot be identified. The same problem occurs with ball no. 49 where the seal

¹⁸ The location of this clay ball is currently unknown, thus a photograph of the seal impression was unobtainable.

¹⁹ Mr Wyatt is one of the few scholars who specialises in this area.

²⁰ (Wyatt 2013, personal communication).

impression has blurred and only the figure of a scorpion can be determined, and the 'flower' accompanying it is not clear enough to identify.

Despite the unknown current location of many of the clay balls of this type, fortunately there is sufficient information regarding their provenance and the contexts. All of Type G were found in residences at Amarna, and two were found specifically in "bedrooms".

Type H consists of three clay balls with abstract and spiral designs, of which there are only three. Ball no. 9 has been included despite its links to Type E due to the use of *nefer* hieroglyphs, because the S-shaped spiral is central to the design, and the additional signs may aid in understanding the use of the spiral in the context of the clay balls.

S-shaped spirals do not represent a phonetic sound or word, and are largely used in Egyptian art decoratively as part of a geometric design. The precise impressions and inscriptions found on ball no. 69 are unknown, inhibiting any further analysis of these. However, it is significant that it is impressed and inscribed, for this could represent two forms of the same design to ensure whatever message was being transferred was sure to be effective, or like Type A, one form of decoration could be aesthetic, whilst the other is informative.

If ball no. 69 is correctly dated to the Roman period,²¹ this could prove either a continued use of this form of clay ball from the 18th dynasty, or could represent a return to old traditions. As Kom el-Nana is situated near to the site of Amarna, it could further inform of the religious or ritualistic importance for the tradition of the clay balls to be used in the area for such an extended period of time.

Type I are all similar for these three balls are all found in a domestic context from the site of Amarna, and thus dated to the 18th Dynasty, and all are stamped with blank seals. These

²¹ This scepticism over dating is explained in chapter 3.

seals are deep, suggesting that the lack of design in the impression is deliberate, but the reason for this evades us. The size difference of the clay balls in this type is limited, with the diameters ranging from 4.1 to 5.4 cm, but the weights and contents are unknown.

The four clay balls in Type J are distinctive as they all possess a ring of circular indentations, similar to those found on Egyptian fertility figurines (further discussed in chapter 5). The holes seem to be deliberately impressed in this pattern, but there is no consistency in the number of holes and sometimes one larger hole can be found in the middle of the design. These indentations appear to be made using a small twig, or possibly a piece of reed. In addition, the shape of these balls is a flattened sphere. Ball no. 122 appears almost disc shaped, with a raised centre and circular indentations on both sides.

A few of these clay balls previously have been determined to contain hair, but there is no evidence to substantiate the claim. Through personal examination of these clay balls, it is impossible to tell whether there was hair contained within them, thus in this database (as discussed in chapter 2.4) they have been classified as having unknown contents.

Currently only one ball is classified under Type K, because it is the only one found with a geometric painted design. It is from the site of Naqada and dates to as early as the Naqada I period (c. 4000 - 3500 BC). The main body of the clay ball is decorated with a geometric design consisting of triangles. The shape of this particular ball is peculiar in that it appears to have a 'lid' stuck on top of a spherical shape with concentric black circles painted on. The contents are unknown, but the shape and the presence of a lid could suggest that this is a form of receptacle. Recently, at the site of Amarna's South Tombs, similar shaped objects were found in a child's grave. The earlier ball from Naqada was also found within a tomb and so could have been used for the same purpose.

Type L includes all of the clay balls that contain hair. This is split into two types due to different provenances, type of context and the artefact dates. Twelve clay balls from domestic contexts are Amarna dating to the 18th Dynasty, all have hair inside of them and are classified as Li. The clay balls of this type are not impressed or inscribed, but are three of the clay balls which possess a white coating which may be a form of decoration. The diameter range of the clay balls is wide: 1.3 cm- 6 cm. The weight of only two of these clay balls are known. It is difficult to determine a mean diameter or weight. Thus they cannot be compared to those balls with no contents. Contrary to this, when viewing one clay ball which had been cut in half, the ball was not hollow with a small wisp of hair integrated into the clay. These statistics might have been used in order to estimate how many of the clay balls with unknown contents may contain hair, but the lock of hair only measures a few centimetres making it unlikely to affect the size or weight of such an artefact.

Comparable to the clay balls of Type Li, these clay balls possess no decoration and contain hair inside, but unlike Type Li, this type is found instead from a burial at the site of Lahun and are dated later, to the 20th Dynasty. The two balls of Type Lii are both 4 cm in diameter, but the weights are unknown. Although different in some respects, the crucial element of the clay balls of Type L (i and ii) is that they all contain hair, and this should be focused on when understanding how they were used. As the clay balls of Type L are all physically similar, the purpose of them is likely to be same, which would arguably mean that the purpose would have to be something that would apply in both ancient Egyptian life and death, as they are found in both mortuary and domestic contexts.

The four clay balls from Type M are strikingly different from all of the other clay balls found thus far. They are more egg or rectangular in shape, and the matrix of the clay material is more pink in colour, heavily infused with straw and much more porous in comparison to the other clay balls. There also appears to be a white coating over the clay balls, but this

may be due to a natural phenomenon related to the clay material, rather than decoration. Salts can cause a whitish colour on the surface of a clay object as a consequence of drying, caused by the salts moving through the capillaries of the clay as it dries (Rice 1987: 336). These salt deposits can also form in burial environments (Rice 1987: 345). If this were the case, then the whitish colour of the clay ball is not a deliberate form of decoration, but a consequence of its production or storage.

The contents, provenance, and contexts for all of the clay balls of this type are unknown, and the date of the Roman period is uncertain. The Oriental Museum at Durham does not know where these artefacts came from and do not know who dated them.²² If further information was available, this could explain why Type M is so different to the other clay balls.

Unlike the other types, Type N does not include a comparative discussion, as this group is based on the fact that there are no determining elements to these 90 clay balls and there is not enough relevant information to allow comparisons to be made. The clay balls listed here, however, will be addressed at appropriate times throughout the thesis to discuss their various qualities.

The Category Considered

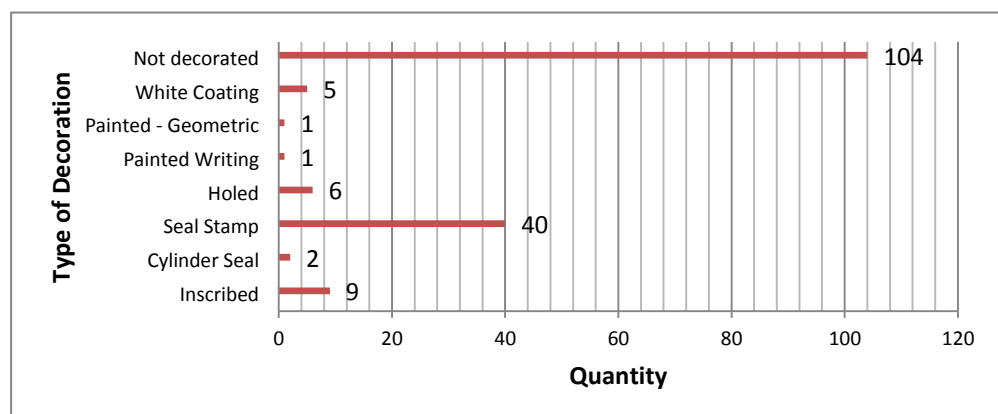
This category approach is a heuristic tool that will hopefully be refined as more information about the clay balls becomes available. This may even one day allow Type N, which is missing various pieces of crucial information, to be incorporated into more specific types and create a better understanding of the clay balls as a whole. The typology created thus far can be used to classify newly discovered balls, and the different functions highlighted by this classification. This will create a better understanding of both the artefact and the

²² (Grocke, 2012, personal communication).

context it was found in. Throughout this thesis the typology will be referred to when discussing potential theories which would explain the function of the clay balls.

2.4. Brief Overview of the Decoration Present

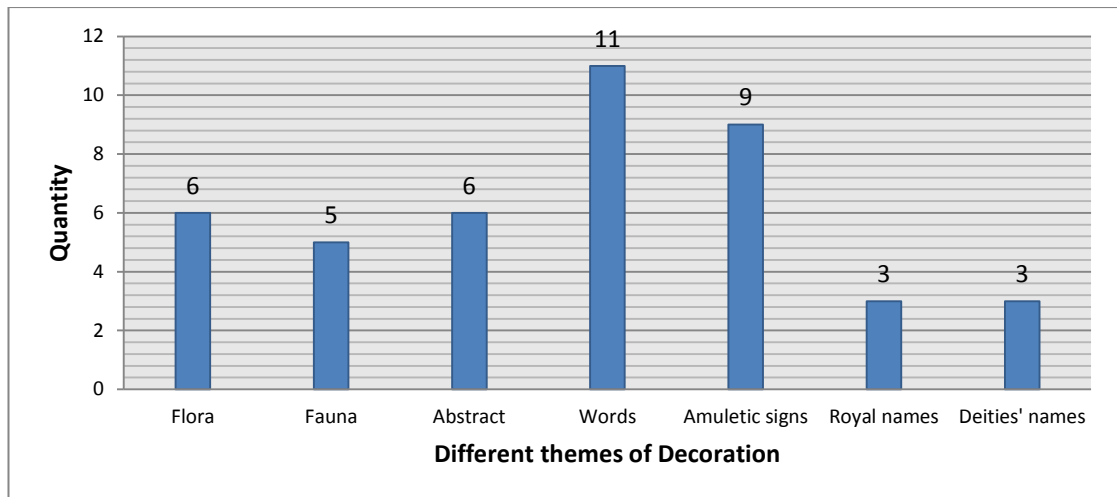
Decoration can be defined as an embellishment which is not required for the creation of the artefact and usually gives a finish to the surface of the object (Rice 1987: 144). Further to this, decorative elements communicate social, religious, and/or cosmological symbolism. Decorative motifs allowed the diffusion of ideas and symbols, whereas the object may represent the exchange of goods (Rice 1987: 144). The most common type of decoration on the clay balls are the seal impressions found stamped on 26% of them (forty balls in total; Graph 3), with the amount of seals found on each ball varying from just one impression to as many as fifteen (Types C, D, E, F, G, H, I and ball nos. 75, 37, 15). Clay balls with multiple seal impressions can be found pressed in two different ways: either methodically around the circumference of the balls, and then the two remaining sides covered (ball no. 8 and 18), or placed randomly all over the ball with some impressions overlapping (ball no. 1, 7, 9, 19, 42, 43, 49, 108, 115 and 116). These impressions vary in design from flora and fauna (Type F.i, F.ii and G), to abstract designs (Type H and K), to hieroglyphic words (Type D). These impressions have been made by the use of seal stamps, or by ring bezels which would have been worn on the finger. Some also appear to be continuous seals indicative of a cylinder seal being used (Ball nos. 27 and 75).



Graph 3: Decoration on the Clay Balls

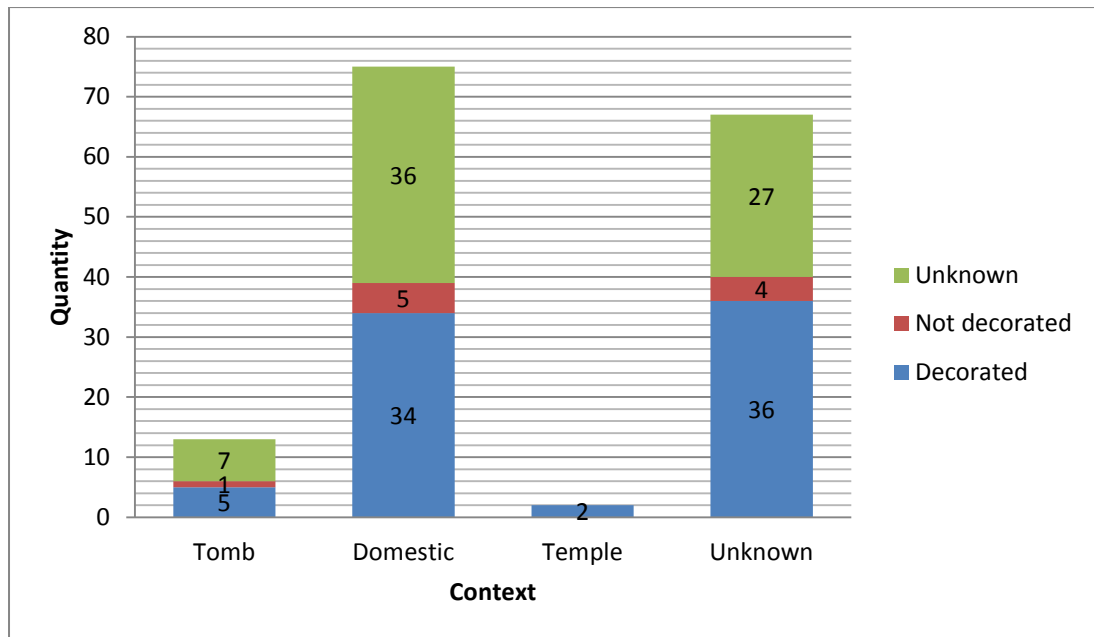
Paint is only found on two of the clay balls: one with the name of the goddess Serket (ball no. 35), and another with a geometric design (ball no. 33). There are a few examples of clay balls that have a white coating surviving on them, but this is not certain to have served as decoration (ball nos. 1, 10, 13, 14, 19). The survival of painted surfaces is common in Egypt, its dry climate helps preserve decorative designs for thousands of years, although the original colour may have faded due to the affects of the sun. However, it is possible that some painted surfaces could now be lost to us.

Aside from the different forms of decoration, there are also different themes on the designs (Graph 4). For instance, there are examples of flora and fauna designs (Type F.i, F.ii, and G), abstract patterns (Type H and K), names of kings and deities (Type B and C), amuletic hieroglyphic signs (Type E), and hieroglyphic words and phrases (Type A and D). These themes appear in one or more forms of decoration, for example, a deity's name can be found both painted on a clay ball (ball no. 35) or in the form of a seal impression (Type B). This may suggest that the theme or design was considered to be more important than the form of decoration used. The tools used for depicting a particular symbol may not have had any significance, because the creators of the balls may have utilised the tools that were available, whether it be a reed pen, brush or seal allowing them to communicate a particular symbol and its related connotations.



Graph 4: Themes of Decoration

Decorated balls are found in both domestic and mortuary contexts, and not exclusively found in one particular type of context (Graph 5). Specific forms of decorations, however, can be found in isolated contexts. For instance, the inscribed balls were only found in graves (ball nos. 26, 27, 28, 74, 76, 105, 106), whereas those impressed with seals were found primarily in homes (Type B, C, D, E, F.i, F.ii, G, H, K). Yet, there are instances of seal impressions being found on mortuary balls (ball no. 75), and ball no. 116 was found near a temple in modern-day Israel (James 1966: 16). Of the painted balls, only ball no. 33 has a known context, and was found in a tomb at Naqada. This can quite clearly show that either different types of clay balls may have served varying functions and indicates the necessity for a typology, or that the clay balls as a whole were multi-functional.



Graph 5: Context of Decorated and Not Decorated Balls

Like the contextual aspect of the clay balls, the forms of decoration can be isolated to particular periods of time (see Graph 6). Inscriptions are found on the clay balls dated from 3-5th Dynasties (2686 BC - 2345 BC), and seal impressions are also present on balls from this period, but are more common during the 18th dynasty (1550 BC - 1295 BC; Type B, C, D, E, F.i, F.ii, G, H, K). Painted balls can be found as early as Naqada I (c. 4000 - 3500 BC) to as late as the Roman period (30 BC - AD 395). However, there are no examples of painted clay balls in between these two dates. The progression of the decoration used on the clay balls throughout ancient Egyptian history is simplified in a flowchart (Figure 3). This shows a clear development in the forms of decoration. There are two exceptions to this from the Old Kingdom (ball nos. 27 and 75), which have a stamped grid design in addition to an inscription. With regards to the pattern seen in this figure, an assumption should not be made that this pattern also proves that these clay balls all served the same function, as the decorative thematic schemes vary significantly enough to suggest otherwise.

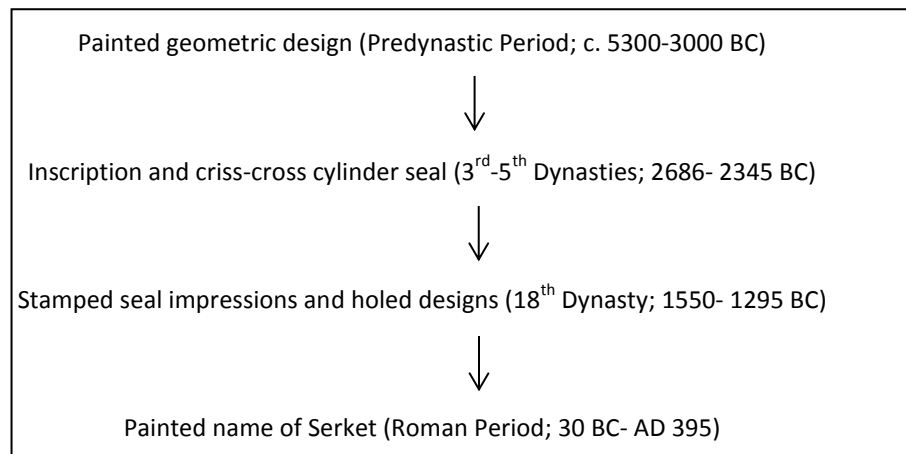
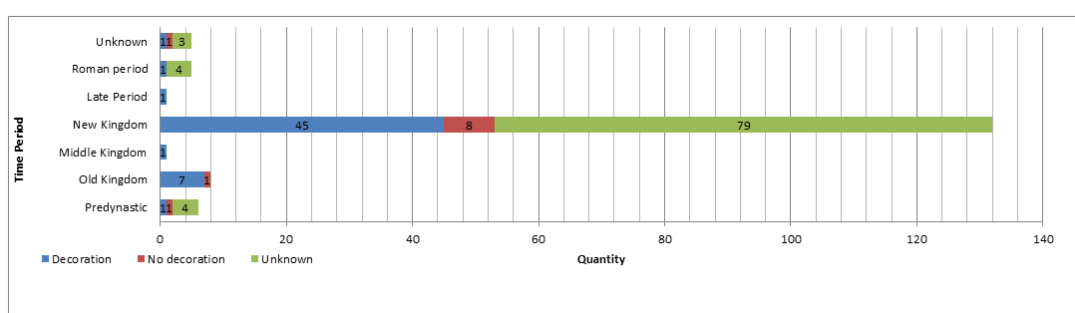


Figure 3: Decoration change through time



Graph 6: Decoration on balls from Specific Time Periods

Categorically, the decoration of the clay balls requires detailed research into each of the different forms and themes present, something which has not been provided by previous scholars.²³ The seal impressions, found on forty of the clay balls, have been almost completely ignored, despite the fact that this is the dominant form of decoration (Graph 3). There appears to be a natural progression through time of the different forms of decoration, as seen above, but there is not enough substantial evidence to link all of the

²³ Stevens (2006) lists the decoration present on some of the clay balls, but the study does not include a discussion of these themes.

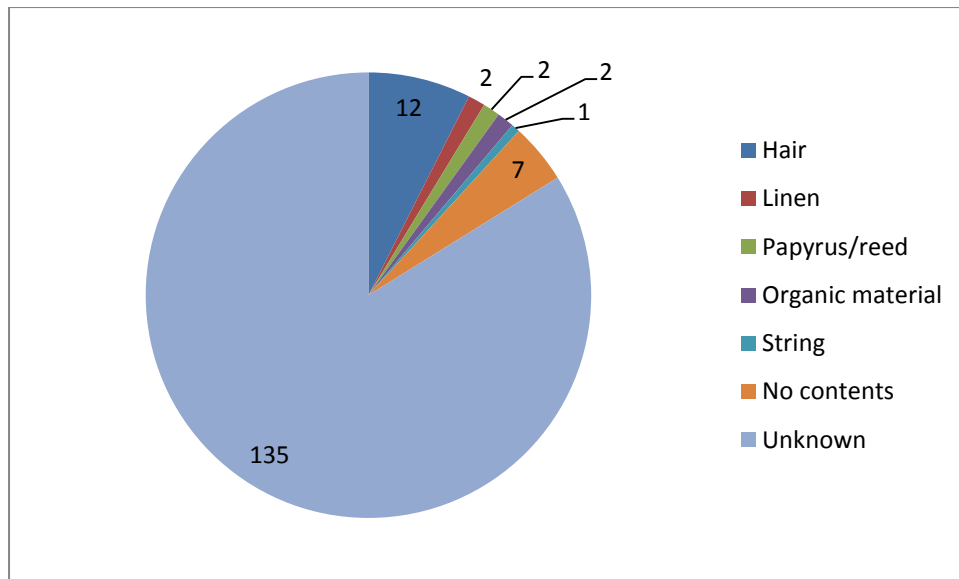
decorated clay balls together on this information alone and may in fact be the coincidence of survival.

There does appear to be a correlation, however, between the type of decoration and the type of context the ball is found; clay balls with the stamped seal impressions are found in houses, whereas clay balls with inscriptions are found in graves. The evidence provided by the decoration on the clay balls enforces the need for a typology, suggests that clay balls may have served different purposes depending on their decoration, and the context may provide further evidence for this.

2.5. Contents of Clay Balls

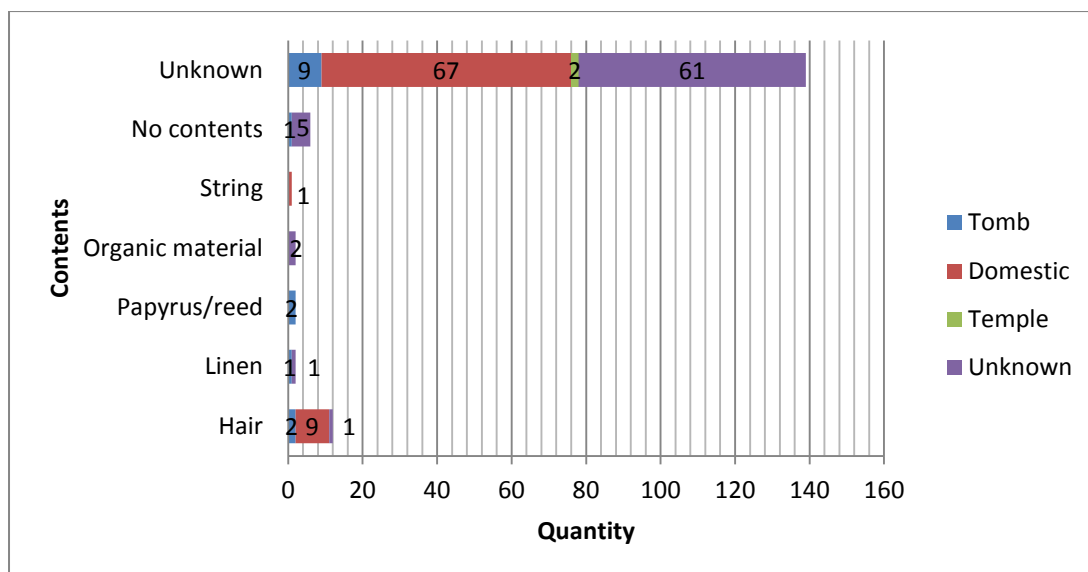
One hundred and thirty-three balls of the one hundred and fifty-six clay balls included in the database of this thesis have unknown contents. In the case of the clay balls excavated from Abydos, these were cut in half by Peet's team, who discovered that reed or papyrus was present in two (ball no. 26 and 27), and linen in another (ball no. 28; 1915a: 8). This destructive method is no longer appropriate in the days of modern technology, which has a variety of alternatives for learning more about ancient artefacts without damaging or destroying them.

The known contents of the clay balls vary, but human head hair is the most common found (Type L.i and L.ii). Linen and string were found in one ball each (ball nos. 28 and 51). Two balls (ball nos. 26 and 27) contain either reed or papyrus, but it has not been determined which of the materials it is. The contents of the clay balls are displayed in Graph 7; clay balls with no contents have been separated from those with unknown contents because their contents may have been lost or that they never had any.

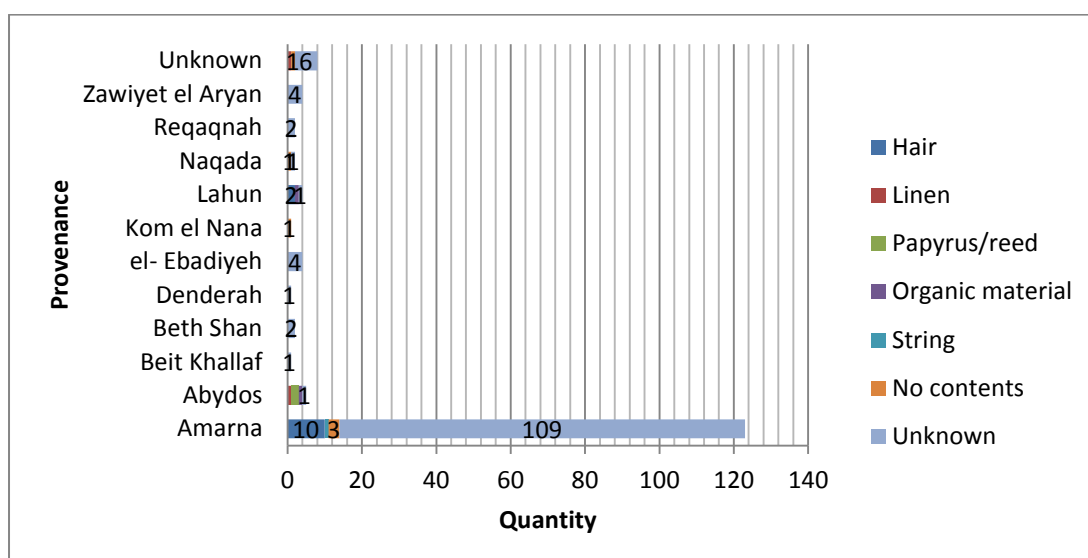


Graph 7: Contents of Clay Balls

Hair clay balls are found in both domestic contexts at Amarna dated to the 18th Dynasty (1550 BC - 1295 BC; Type Fi), and in a mortuary context (see Graphs 8 and 9) at Lahun dated to the 20th Dynasty (1186 BC - 1069 BC; Type Fii). The fact that these two types were excavated from two sites, in different types of contexts and with a gap of approximately two hundred and eighty three years, but still appear to be similar, could suggest a form of continuation of use. However, there is currently no other examples found to fill in these gaps; perhaps due to the survival of the artefacts. Although we must also accept the possibility that these examples could be isolated cases, each serving a different function. For instance, those hair balls found at Amarna may reflect an isolated ritual practised by those living in the remote town; whereas those in Lahun could be examples of the development of hair offerings left in tombs, as argued by Tassie (1999: 61), or an example of a foreign ritual being practised in the country of Egypt. There is no decoration present on these clay balls, so there is no point of reference to prove unquestionably that these artefacts were made by Egyptians.



Graph 8: Contents Found in Different Contexts

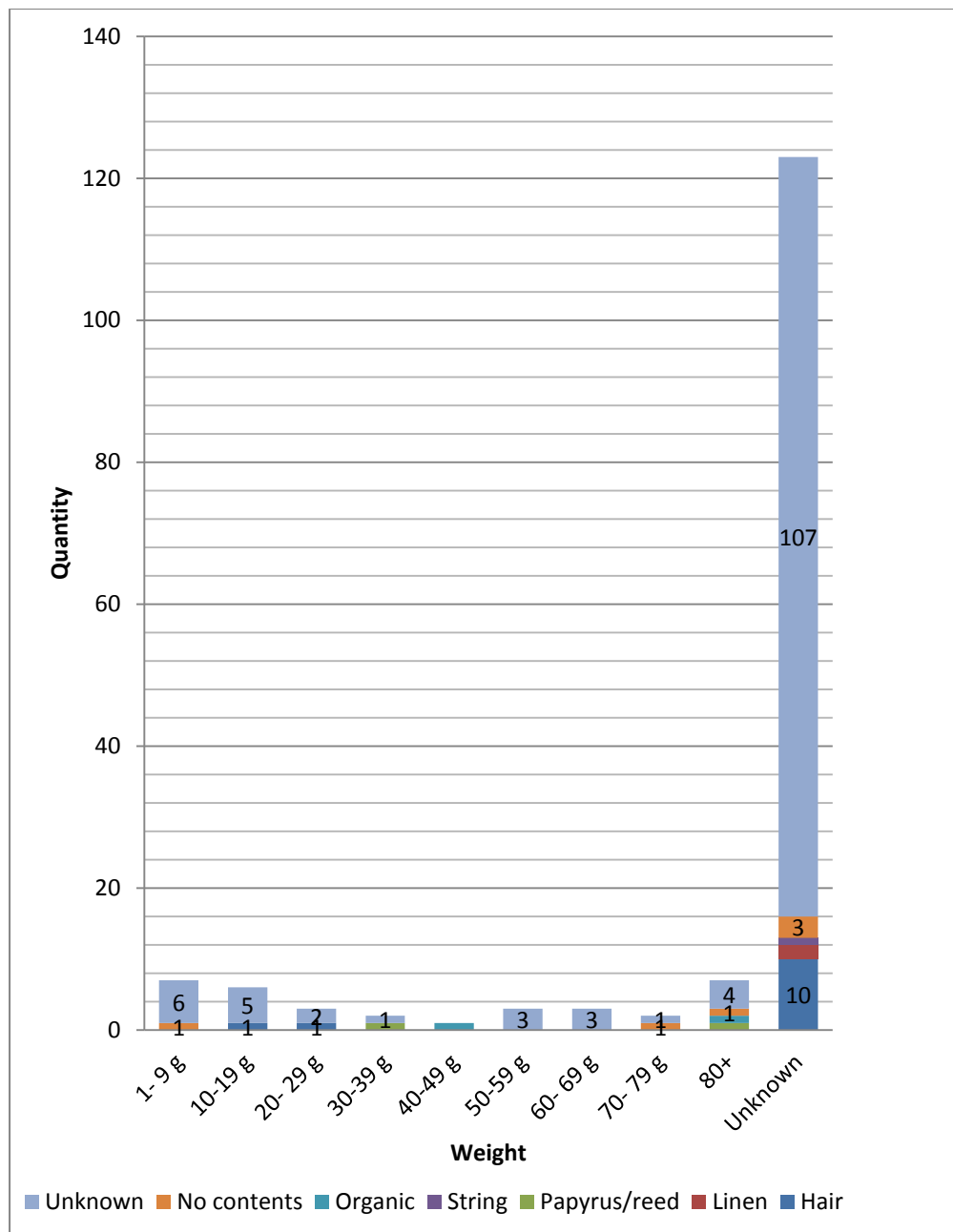


Graph 9: Contents Found in Different Provenances

The hair found in the clay balls ranges from light brown to red, and has obviously been cut rather than pulled from the root, measuring at just a few centimetres long. The hair samples are found in the centre of the clay ball as a separate lump and not a component of the clay fabric. There are waves present in the hair (discussed in chapter 5), possibly caused by plaiting, but this may have been caused by the way the hair sat inside the clay ball. Similar waves have been observed on hair of a New Kingdom mummy of a boy (KV35), who

was wearing a sidelock hairstyle (Cairo CG.61071; Smith 1912: 39-40; Fletcher 1995a: 383). Depictions of a hairstyle using zigzag lines in the tomb of Ramose (TT55) may indicate a crimped style (Chicago House MMA Photo Archive T.550; Davies 1941: 15-16; Fletcher 1995a: 219), which may also explain the waves present on the clay balls.

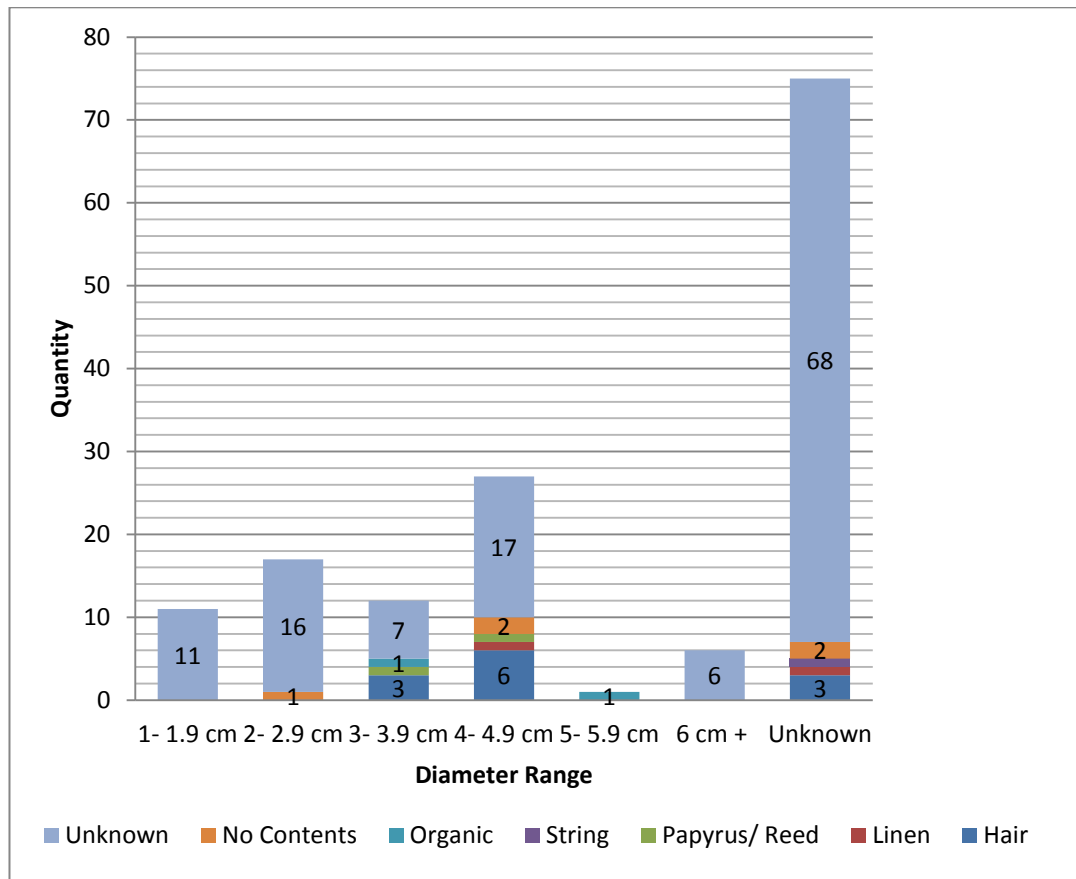
Exactly how many clay balls contained hair is difficult to determine because at least nine balls that have been classified as possessing the material, in fact, may not (ball nos. 68a-k, 63, 64a-b, 65, 66, 67; see Chapter 5 for further discussion). Upon examination it is not possible to tell that these specific artefacts had any contents at all. It is likely that an assumption was made, because of the concentration of scholarship on the clay balls containing hair. In an attempt to ascertain whether it possible to use weight to determine content, Graph 10 illustrates the lack of correlation between content and weight. The balls with questionable contents have not been included in the hair proportion, as this may skew the representation and accuracy of the data obtained in this thesis. For this reason, in the database and typology these artefacts have been classified as their contents being currently unknown, until further information becomes available.



Graph 10: Weights of Balls for each content material

When conducting my examinations I had hoped that the recording of weight and diameters would reveal a pattern in weights for those clay balls which possessed contents. However, with a weight range starting at 18 grams and finishing at 105 grams for those clay balls with contents, and a diameter span between 1.3 cm and 8.5 cm, but there seems to be little to no correlation (see Graphs 10 and 11). An accurate perception cannot be achieved when looking at this aspect, as so few measurements are available for many of the clay balls. In

addition, 84% of the clay balls have unknown contents, and only six without any contents, meaning there is very little data to compare. The composition of the clay could also explain the variation in weight as well. Therefore, a balanced view on whether weight can determine contents is highly unlikely.



Graph 11: Diameter of Balls for each content material

Using the figures supplied in Table 1, 2 and 3 we can use the Chi-squared formula as a test of association between the diameter and weight of the clay balls. The chi square total is 110.71. The degrees of freedom in this calculation is 15 with the probability of 5, which results in the chi-square critical value of 25. It must be concluded therefore that, because the chi square is much lower than the critical value, we must therefore confirm our null hypothesis and state that there is no relationship between the variables. The observed frequency of each diameter ranges of the balls differed significantly from what would be

expected based upon the weight ranges. This clearly indicates that other factors contribute here, including the content of the material used to create the clay balls being a possible factor.

<i>Weight</i>	<i>Diameter</i>				TOTAL
	1 - 2.9 cm	3 - 4.9 cm	5 cm +	Unknown	
1- 19 g	10	3	0	0	13
20- 39 g	0	5	0	0	5
40-59 g	0	3	1	0	4
60- 79 g	0	5	0	0	5
80+	0	2	5	0	7
Unknown	19	21	9	74	123
TOTAL	29	39	15	74	157

Table 1: Contingency Table of Observed Frequency of Chi Square

<i>Weight</i>	<i>Diameter</i>				TOTAL
	1- 2.9 cm	3- 4.9 cm	5cm +	Unknown	
1- 19 g	2.401274	3.229299	1.242038	6.127389	13
20- 39 g	0.923567	1.242038	0.477707	2.356688	5
40-59 g	0.738854	0.993631	0.382166	1.88535	4
60- 79 g	0.923567	1.242038	0.477707	2.356688	5
80+	1.292994	1.738854	0.66879	3.299363	7
Unknown	22.71975	30.55414	11.75159	57.97452	123
TOTAL	29	39	15	74	157

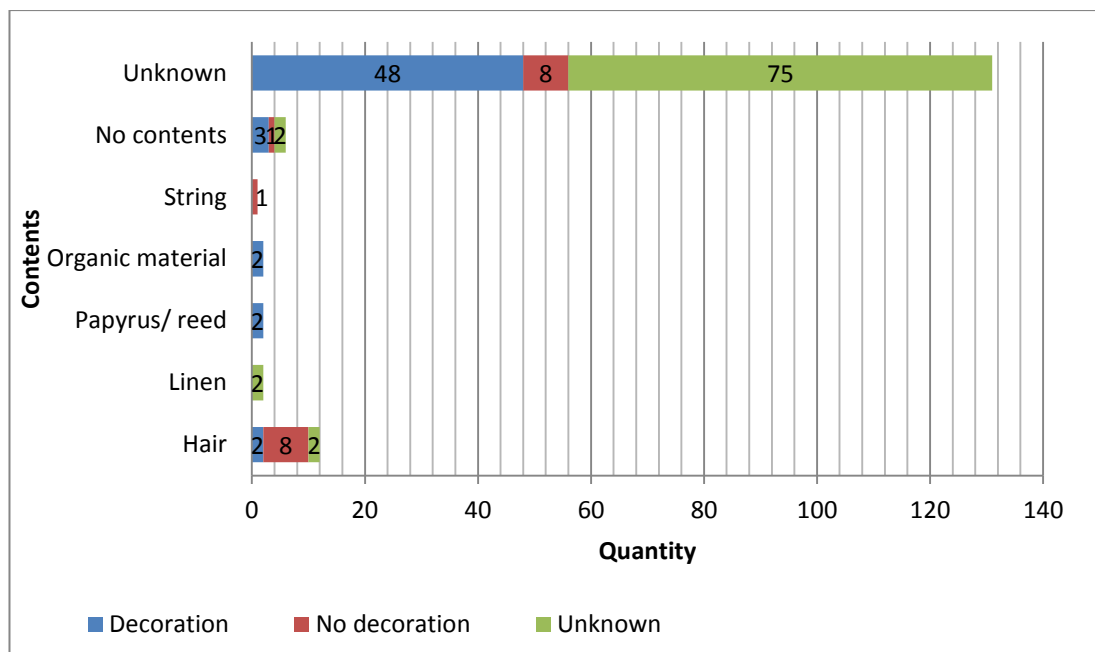
Table 2: Contingency Table of Expected Frequency of Chi Square

(OBSERVED - EXPECTED)^2 / EXPECTED

<i>Weight</i>	<i>Diameter</i>				TOTAL
	1- 2.9 cm	3- 4.9 cm	5cm +	Unknown	
1- 19 g	24.04584	0.016282	1.242038	6.1273885	31.43154
20- 39 g	0.923567	11.37024	0.477707	2.3566879	15.12821
40-59 g	0.738854	4.051323	0.998832	1.8853503	7.674359
60- 79 g	0.923567	11.37024	0.477707	2.3566879	15.12821
80+	1.292994	0.03922	28.04974	3.2993631	32.68132
Unknown	0.609008	2.987536	0.644275	4.4298068	8.670626
TOTAL	28.53383	29.83485	31.8903	20.455285	110.7143

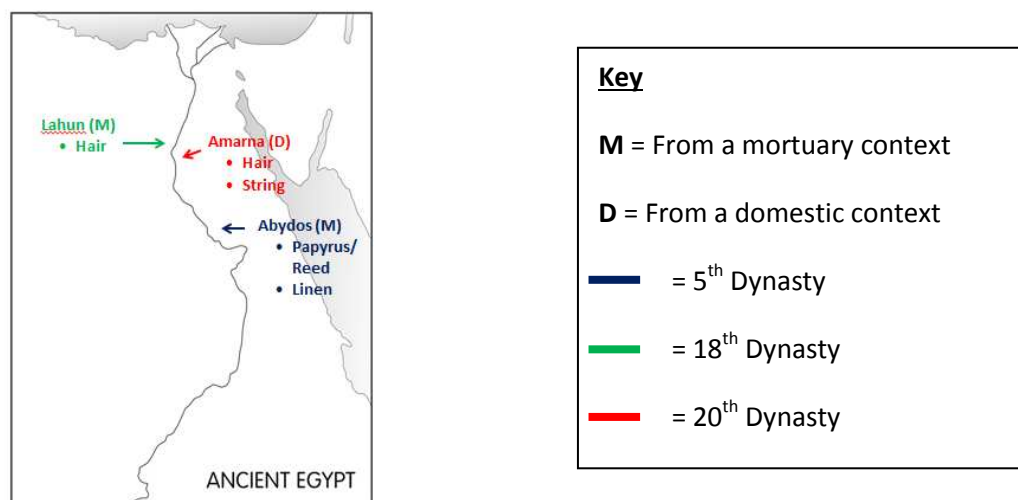
Table 3: (Observed- Expected)^2/ Expected

Although there is no correlation between weight, size and contents, there does appear to be a connection between contents and decoration. Graph 12 shows whether the clay balls with differing contents are decorated or not; the most striking balls with contents which have decoration are those from Abydos which bear the phrase *htm*, ‘to make a contract’. Further details of the ‘contract’ agreed may have been present on the reed, papyrus or linen found contained in the clay balls (Peet 1915b: 253). If this theory is correct, then similar materials would be found in the clay balls excavated at Reqaqna and Beit Khallaf, which have the *htm* inscription, but currently have unknown contents (ball no. 76, 105 and 106). There are no other examples of clay balls with the same contents as the Abydos balls at another provenance, or indeed from anything other than a mortuary context. The closest example is a clay ball containing thin string that was found in a domestic context at Amarna (ball no. 51). Being the only form of its kind, it is difficult to make an assessment as to its purpose.



Graph 12: Decoration on Balls with Different Contents

Content in clay balls is not isolated to one particular period, with instances occurring in the 5th, 18th and 20th Dynasties (Map 3). However, specific contents can be found only in one era. For instance, hair in clay balls has only been found in the New Kingdom, whereas other organic substances such as linen and papyrus or reed have only been found in the Old Kingdom, with one example dating to the Middle Kingdom, thus far. Nevertheless, until more information becomes available regarding the contents of the clay balls it would not be appropriate to assume that this is a general pattern.



Map 3: Contents of Clay balls in specific geographical locations

2.6. Clay

The fabric of the clay is a major component of the balls, thus a detailed discussion of its composition and production process is required in order to determine whether the person who made the object was conscious of decisions when producing them, whether related to the nature of the material, the geography of the area, or for symbolic reasons. The symbolic and metaphoric meanings of clay will be discussed in later relevant chapters.

There is some discussion as to the lengths an archaeologist should go to in determining the precise clay fabric of a sample, and whether traditional practice or scientific methods

should be used. Peacock argues that if the origin and type of the artefact can be established from observations, then scientific testing is not needed. However, if further information is required, then scientific methods should be used in gradient steps of simplicity, beginning with visual, then microscopic, and finally a chemical analysis (1977: 25). To determine which level of examination is required depends on the research questions being asked, for if chemical analysis cannot provide an answer to the research question, then it should not be used (Rice 1987: 51). The clay balls did not warrant scientific testing, as the expense of the procedure cannot be justified by the amount of information that would be gained from these examinations. Neither would it assist in answering the research questions of this thesis, other than perhaps determining if the artefacts were made locally to the site where they were found.

The basic identification of the material of the artefacts can differ depending on the recording by excavators or the institution where they are held, as a proportion of the clay balls have in fact been classified by some museums as mud balls (Appendix 1). The distinction made in these cases is not clear, as some of the artefacts which differ are made of a similar material, such as ball no. 25 ('clay') and ball no. 108 ('mud'). What scientifically determines clay is often decided on the basis of particle sizes and mineral composition (Rice 1987: 52). However, this is complicated by the fact that varying disciplines define clay differently. For instance, geologists and soil scientists define clay based on particle sizes less than 2 μm (micrometers), whereas sedimentary geologists use 4 μm particle size (Guggenheim and Martin 1995: 255-6). In principle, clay is an inorganic material (aside from some forms which have high quantities of organic material), which occurs naturally, and is malleable with the correct water content, but when fired or dried becomes hard (Guggenheim and Martin 1995: 255-6). It is this latter definition that we will use, as determining precise particle sizes is not crucial to this study.

Museum curators would not have necessarily had the scientific training to classify the artefact material correctly. One must then assume that there is no clear distinction made between mud and clay in museum databases. Unfired clay could be simply interpreted as a form of mud, thus the terms could have been used by the museums to refer to the same material. Although the terms used by the museums have been maintained in Appendix 1 for any future studies, the term 'clay' will be used to describe the material of the balls throughout this thesis.

Ancient Egyptian clay fabrics are determined using the Vienna System (for clay classification), found in Arnold and Bourriau (1993: 168-182). The Vienna System is a "visual classification which defines the main groups into which fabrics may be placed" (Arnold and Bourriau 1993: 168), and within these types are subtypes. This system is a basic guide to the different fabrics and is deliberately broad to prevent classifications being made on firing conditions or on the paste used by the potter. The examples used for creating the system are limited geographically to sites from the Delta and Faiyum, but the system does not include sites that are situated south of Thebes. The limitations also include a dating range which spans mainly from the 11th Dynasty (starting 2055 BC) to the end of the 18th Dynasty (ending approximately 1295 BC). However, it is an ideal starting point in the classification of ancient Egyptian clay fabrics using only a x10 hand lens or microscope (Arnold and Bourriau 1993: 168).

The Vienna System, however, is used for identifying fired clay fabrics instead of unfired clay (Arnold and Bourriau 1993: 168-9). Nonetheless, this system has been applied to classify the material used in the production of the clay balls on a basic level, as there is no current guide to unfired ancient Egyptian clays. The basic mineralogy and organic content are two of the determining factors in the origins of clay fabric. This method is effective, therefore, up to a point, as the basic mineralogy does not vastly change with heat, and even in a fired

state the percentage of original organic content can still be determined (Arnold and Bourriau 1993: 168-182; Bourriau, Nicholson, and Rose 2006: 130).

Colour is also significant, with fired clays ranging from red to black. However, it is not always possible to use colour as a determining factor in the classification of unfired clay, as often the colours are similar. Nevertheless, in this thesis colour has been specifically recorded for the examined balls using a Munsell Colour chart, which provides standardised colours for soil samples²⁴ (wet or dry) and is used in field archaeology for recording soils, categorising pottery, and for identifying colours of textiles and paints (Gerharz, Lantermann and Spennemann 1988; Orton and Hughes 2013: 157; Rice 1987: 341-343). Despite the range of colours there are gaps in shades and hues within the Munsell chart, and in these cases the closest comparable colour has been selected. The Munsell chart is based on subjective observations (Rossel et al. 2006: 322), as a result colour can be perceived differently by different persons, so all of the samples have been examined and categorised by myself to ensure a level of standardisation. This will allow a fairly accurate discussion of colour.

The colour of the clay has no doubt changed since the balls were made, but in this case the colour classification is not solely used for the identification of the clay type. Also, without the colour-changing effect that heat has on clay (Arnold and Bourriau 1993: 169), we, therefore, have to base any conclusions primarily on the fabric of the clay balls, more specifically, on the factors mentioned previously - mineralogy and organic content.

There are five main clays that have been utilised for pottery throughout ancient Egyptian history and the two most likely used for the clay balls are marl and Nile clays. The other three clays are kaolin, pliocene, and mixed secondary deposits. Kaolin could not have been

²⁴ www.munsell.com Accessed 26th January 2014.

used for the clay balls as its use is documented from the Late Period onwards and it is found to the far south of Egypt (Aswan); Pliocene is found in random areas throughout Egypt spreading from Cairo down to Esna, but consists of fine-grained sediments; and mixed secondary deposits can occur on floodplains, but Pliocene clay is “washed-down and mixed sediments”, of which marl clay is a component (Arnold and Bourriau 1993: 160-1).

Nile clay is found on the floodplains of Egypt and is determined by a high silica, mica and organic content in the raw clay (Arnold and Bourriau 1993: 160-1). In contrast, marl clay was found along river valleys and has a lower silica content, rarely has organic content, and “as a rule there are inclusions of finely disseminated oxides of iron, always in smaller proportions than the calcium carbonates” (Arnold and Bourriau 1993: 160). Marl clay, however, is only found utilised from the Naqada II period onwards. Both Nile and marl clays are grey in their dry state (Bourriau, Nicholson and Rose 2006: 121; Arnold and Bourriau 1993: 160), therefore colour cannot be the determining factor when classifying the material of the clay balls.

It is possible to do further scientific studies into the composition of clay, such as a chemical analysis of the components of the fabric, which can help analyse “very fine well-levigated wares” (Peacock 1977: 25), but these methods are costly (samples must be acquired from the exact provenance to be of any use)²⁵ and the information gleaned from such tests will not aid answering the research questions of this thesis. The development of scientific techniques does not automatically make traditional archaeological methods of identification obsolete, especially if these methods accurately identify the type of fabric used (Peacock 1977: 25).

²⁵ Oral Communication with Professor Ian Croudace from the National Oceanography Centre (20th November 2013).

The examinations of the fabric of the clay balls were made using ocular observations; the use of a hand-held magnifying glass (30x), high-resolution photographs and using the chart provided in *An Introduction to Egyptian Pottery* (Arnold and Bourriau 1993: 164) (Appendix 5) as a guide to recording the properties of the fabric of each ball. The chart uses basic identifiers such as porosity, hardness, particular minerals and organic content, to allow an Egyptologist, who is not trained in pottery classification, to make an informed decision about the fabric of a clay sample. In addition to this, a grain size scale and a sorting chart has been used to record the size of the grains and pebbles in the clay more accurately, and to record the minerals' quality of sorting²⁶ specifically. These observations were then compared with the descriptions of the different Nile fabrics (Arnold and Bourriau 1993: 168-182). These descriptions are primarily based upon fired clay, but the materials present in the clay fabric are still relevant to unfired clay and could be used appropriately.

Figure 4 shows the basic mineral content of the fabric of the clay balls, which I have examined using the same chart mentioned previously. The grain size scale ensured that the size of the sand granules were correctly recorded (Figure 5), as well as determining how well the clay minerals were sorted (Figure 6). In addition, the colour of the clay balls from the British Museum have been recorded using the Munsell soil chart to ensure standardisation. The colours present were 2.5YR 5/2, described as greyish brown in the Munsell soil chart (ball nos. 25, 26, 108), and 10YR 5/2, also described as greyish brown (ball no. 27).

²⁶ Sorting refers to the size of the particles present. A well-sorted material would comprise of the same size particles, whereas a poorly sorted material comprises of particles of differing sizes (Bourriau, Nicholson and Rose 2006: 129).

Sample	Clay			Non plastic Inclusions												Porosity					Hardness								
				Sand			Straw		Limestone		Other inclusions																		
	Nile	Marl	Foreign	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Grey white gran	Micaceous Incl	Shells/fossils	Plant Material	Silica Formations	Crushed sherds	Dark rock material	Red-brown gran.	Open porous texture	Moderately porous	Elongated pores	Decomposed limestone	Dense	Incipient vitrification	Crumbly & Soft	Medium strength	Hard & firm
Ball no. 25	B2			✓						✓		✓		✓		✓									✓			✓	✓
Ball no. 26	C				✓							✓		✓			✓											✓	✓
Ball no. 27	C												✓	✓			✓								✓			✓	✓
Ball no. 29					✓					✓			✓																✓
Ball no. 30					✓											✓			✓			✓						✓	✓
Ball no. 31					✓						✓					✓					✓						✓		✓
Ball no. 32					✓								✓			✓											✓		✓
Ball no. 33	A				✓						✓		✓					✓								✓			✓
Ball no. 34	A				✓								✓					✓											✓
Ball no. 35	C					✓						✓	✓					✓											✓
Ball no. 49	B1				✓			✓		✓			✓		✓	✓		✓	✓	✓					✓	✓			✓
Ball no. 108	C				✓				✓			✓	✓	✓		✓	✓				✓								✓
Ball no. 122	A				✓							✓	✓	✓		✓					✓				✓	✓			✓
Ball no. 123	A				✓						✓		✓				✓								✓				✓

Figure 4: Identification of Clay

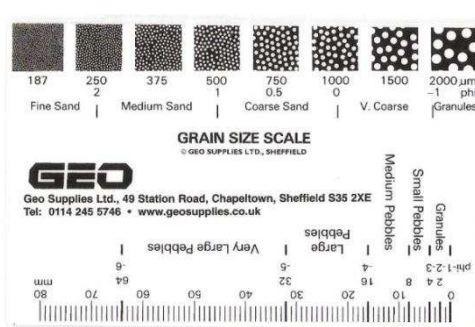


Figure 5: Grain Size Scale

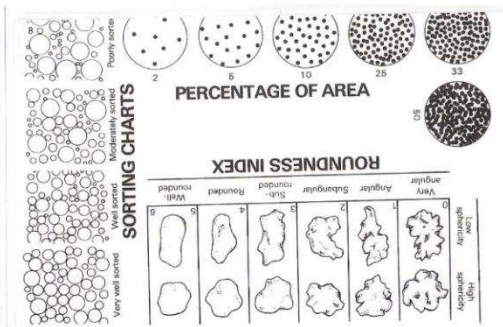


Figure 6: Sorting Chart

Determining whether the clay balls were made of Nile or marl clays can be difficult because both types are grey before firing (Arnold and Bourriau 1993: 160), and many of the distinctions are made after the firing process, which, due to the unfired nature of these artefacts, makes it difficult to distinguish the difference. In its raw form marl clay is typically found along the river valley or in a Wadi and originates from shale and limestone. These sediments cause the clay to turn white or cream when fired, but sometimes with inflections of pink and orange (Bourriau, Nicholson and Rose 2006: 121-2; Arnold and Bourriau 1993: 160).

There is, however, sufficient evidence to conclude that the clay present in the balls is of Nilotic origin. Firstly, Nile clay was a readily available material to most ancient Egyptians, who would have obtained it directly from the river bank of the Nile or irrigation trenches (Bourriau, Nicholson and Rose 2006: 122). It is built up from silt deposited by the Nile and as a consequence of the river changing location can be extracted from areas away from it. When fired this clay turns from red to brown due to the high levels of iron and silica. In addition, contrary to marl clay, Nile clay has a high organic content (Bourriau, Nicholson and Rose 2006: 121; Arnold and Bourriau 1993: 160). The identification of Nile clay is also supported by other scholars who have researched the clay balls, such as Arnst (2006: 10), who has identified some of the clay balls as Nilotic (e.g. ball nos. 10-17).

Peet discusses some of the clay balls he found in Abydos²⁷ and states that they are made of “ordinary Nile mud with which have been intentionally intermixed certain impurities such as small fragments of charcoal, and pottery, and, in one case, a piece of bone” (1915a: 8). Peet also mentions that the centre of the clay balls are “blackened by carbonaceous matter”, but suggests these may have been contents like those which contain reed or papyrus (1915a: 8). Conversely, Garstang argues that the clay found at Reqaqnah (relatively close to Abydos) is much harder than ordinary Nile clay (1904: 59), and states that it is “seemingly foreign clay”, but does not explain further why he thinks this (1904: 32).

Nile clay is divided into five different groups, which are classified using the size and quantity of the sediments found within them (Bourriau, Nicholson and Rose 2006: 130); Nile A clay usually has copious amounts of fine sand, with inclusions of medium and coarse sand, and mica also occurs frequently (Arnold and Bourriau 1993: 169). Straw is not present in this fabric (Arnold and Bourriau 1993: 170). Nile B clay is subdivided into two types, Nile B1 and Nile B2; Nile B1 is a silty clay with predominantly fine to coarse particles of sand

²⁷ Ball no. 26, 27 and 28 are from Abydos, but Peet does not specify which he is referring to.

with fine straw (<2mm) included in it (Arnold and Bourriau 1993: 171). Nile B2 characteristics suit the fabric of the clay balls more accurately because, although in groundmass it is very similar to B1, it has larger mineral and organic inclusions, which is a common occurrence in the fabric of the clay balls. The amount of straw present in the fabric of some of the clay balls (Type M) could suggest that it was deliberately added by the potter. Limestone particles can also be found in this fabric (Arnold and Bourriau 1993: 170-171).

Another clay fabric for the balls may also be Nile C, which is similar to the fabric of Nile B, but in the case of Nile C straw is more prevalent than sand, whereas the opposite occurs in Nile B (Arnold and Bourriau 1993: 172). This straw is often fine or coarse, and rod-shaped. Particles of limestone, mica, crushed sherds (grog) and medium to coarse rock particles can also be found as inclusions in Nile C clay (Arnold and Bourriau 1993: 173). This particular clay is not exclusive as it is found in all regions throughout all periods. In the discussion of the Vienna system the authors, Arnold and Bourriau, admit that some classifications of these fabrics leave little difference between the material of Nile C and Nile B clays (Arnold and Bourriau 1993: 174).

Based upon the differing inclusions of the fabric, most of the examined clay balls appeared to be a form of Nile clay, either Nile A, B1, B2 and C (Figure 4). The only exceptions would be ball nos. 29 – 32 (Type M), all four of which are a lighter, pinker colour with a heavy inclusion of straw, in comparison with the other clay balls. They also vary from the other clay balls as they are dated to the Roman period and are more square than spherical in shape. However, their precise fabric has not been successfully determined. The overall use of Nile clay from this sample of 14 balls, as opposed to marl, could be significant in terms of production and in aspects of religious symbolism; this will be explored in chapter 5.

Renfrew details in *Pottery and Early Commerce* (1977) the properties of ceramics, which are useful to archaeologists in the understanding of a culture and, although the clay balls are unfired and not ceramic, some of the points that Renfrew addresses applies to them as well. The first property is that the form of the object has been formed to fulfil a specific function (although this does not always entirely apply, as some parts of form can be decorative); secondly that clay is malleable making it easy to decorate without affecting the function of the object. Thirdly, petrology and chemical analysis hold much scientific information and can even enable source identification for the material. Fourthly, that breaking an artefact makes it unusable, which applies directly to the required breaking of the clay balls as indicated by the relevant execration rituals. And lastly, that the porous nature of clay can absorb solids, such as seeds, and liquids such as gums and resins. Additionally, smaller samples of organic materials can sometimes be traced using scientific testing (Renfrew 1977: 5-6).

Only one of the properties addressed are not applicable to the clay balls, which is that firing retains information about the material, including thermal, chemical and radiation of the period (Renfrew 1977: 5-6); Clay balls were dried and not fired making the first property irrelevant. The unfired state of the balls leaves one to wonder whether this was a deliberate decision made by the producers, either for a practical reason (for instance, since the clay balls are largely solid, they would have cracked if fired [Peterson & Peterson 2002: 37]), or that the high temperatures may have made the contents disintegrate, especially with fragile materials such as hair. There may have been a symbolic meaning for the unfired state. For example, the drying process in the sun may have been seen as exposure to the sun god Ra, or, in the case of Amarna, Aten, both of whom the shape of the sphere is associated with, which may be reflected in the shape of the clay balls. The possibility that leaving the clay balls unfired meant that the clay could be returned to a plastic state would

not necessarily be relevant in this instance as Types A and Lii are deposited in a funerary context with the likely intention that the balls would last eternity.

To sum up the possible reasons that the clay balls were not fired are four-fold: either the potential symbolism linking the ball to the sun god (possibly the form of Ra);²⁸ to protect the contents inside the clay ball from disintegration; to store the magical powers of particular fluids; or, if these artefacts were not meant to be kept indefinitely, they could be returned to their original malleable state again.

2.7. Identification of Hair Present

Symbolism of Hair

Whilst determining what clay balls constitute as Type L there existed an issue with hair being identified in some clay balls when there is no evidence of the material present. Arnst, for example, discusses hair balls from Amarna with seal impressions pressed upon the clay (2006: 10; ball nos. 7-10, 13-19, 23), but there is no evidence of hair contents found within any clay balls with seal impressions. A proportion of the clay balls are completely sealed and after making a physical inspection of these artefacts, I can conclusively say that from observation the content of these balls could not have been identified. Those containing hair are known either because decay has caused the clay ball to crack and the hair sticks out, such as ball no. 2, or because the artefact has been cut open, such as ball no. 5.

Table 4 shows a list of all of the clay balls which have been recorded as containing hair, but which have no accompanying evidence to substantiate the claim. Ball nos. 20-24 have been examined by myself, and with the artefacts completely intact there is no possible way of telling that hair is contained within these artefacts. One example is ball no. 20 which, when

²⁸ As discussed in chapter 4.

observed from all angles (see Figure 7), there is no evidence to suggest that hair could have been observed within this artefact. The remaining clay balls in Table 4 are only recorded in the Amarna Smalls Finds Database, but there is no further information about them (for example if they had been cut open), neither are there any photographs or drawings of the artefacts to substantiate the claim that these clay balls contained hair. It must be surmised, therefore, that the persons who recorded the artefacts on the database had made an assumption on the contents, based upon previous finds and scholarship, such as Crompton (1916) and Blackman (1925) who discussed the presence of hair within clay balls. These assumptions must not be continued, particularly as we know from Peet's article 'A Remarkable Burial Custom of the Old Kingdom' (1915a) that when other examples of clay balls have been cut open there have been examples of different materials found, such as linen and papyrus or reed.



Figure 7: Clay ball supposedly containing hair

Ball No.	Identification	Museum	Provenance	Context	Dyn.
20	56.21.636	Liverpool	Amarna (N.S.)	House U	18
21	56.21.637	Liverpool	Amarna (N.S.)	House U 35.17	18
22	56.21.638	Liverpool	Amarna (N.S.)	House U 36.34	18

24	56.21.682	Liverpool	Amarna	294	18
63	30/217	-	Amarna (N.S.)	T36.60	18
64a	30/276	-	Amarna (N.S.)	T36.63	18
64b	30/277	-	Amarna (N.S.)	T36.64	19
65	30/382	-	Amarna (N.S.)	T36. (square to north of houses 55, 66, 72, 77)	18
66	31/30	-	Amarna (N.S.)	U33.1	18
67	31/183	-	Amarna (C.C.)	Q41.14	18
68a	31/262	-	Amarna (N.S.)	T33.7A/B	18
68b	31/263	-	Amarna (N.S.)	T33.7A/B	18
68c	31/264	-	Amarna (N.S.)	T33.7A/B	18
68d	31/265	-	Amarna (N.S.)	T33.7A/B	18
68e	31/266	-	Amarna (N.S.)	T33.7A/B	18
68f	31/267	-	Amarna (N.S.)	T33.7A/B	18
68g	31/268	-	Amarna (N.S.)	T33.7A/B	18
68h	31/269	-	Amarna (N.S.)	T33.7A/B	18
68i	31/270	-	Amarna (N.S.)	T33.7A/B	18
68j	31/271	-	Amarna (N.S.)	T33.7A/B	18
68k	31/272	-	Amarna (N.S.)	T33.7A/B	18

Table 4: Clay Balls claimed to contain hair, but with no evidence to substantiate

For this reason, within the database and this thesis those balls containing hair for certain are described as having ‘hair’ and are placed in Type L (Appendix 2). However, those recorded as having hair, but in fact the contents are impossible to determine are described as ‘Recorded as containing hair’ in the database (to acknowledge the artefact as a ball which has previously been classified as a ball containing hair), but in the thesis will be categorised as clay balls with unknown contents to avoid confusion. Without this distinct definition between ‘containing hair’ and ‘recorded as containing hair’ the belief would be that there are 22 clay balls with hair out of a total of 117 clay balls known, when there are

in reality only 13 out of 117 balls confirmed to contain hair. This is a significant difference which can affect the typology, proportions and theory. In the classification of the clay balls only those with confirmed hair contents have been incorporated into Type L to ensure an accurate discussion of the clay balls containing hair. The clay balls 'recorded as containing hair', however, will be analysed as balls with contents unknown (Type N; Appendix 2), as it is my opinion that they should not be assessed otherwise until evidence of contents have been provided. The further information needed to classify these clay balls depending on their contents is forthcoming from the research team of Dr Natalie McCreesh at the University of Manchester, who are CT scanning selected artefacts.

The hair samples found inside the clay balls were only three to five centimetres in length and even though the extent of allowance to touch the hair itself was limited to through latex gloves (to protect the artefact from contaminants carried by hands) the hair felt very fine,²⁹ as stated originally by Crompton. In Crompton's article she proclaims that the hair is 'apparently infantile', but she does not specify why she thinks so (1916: 128). With regards to the age of the child, many of the scholars have focused on the comment made by Crompton or assumed the hair belonged to a prepubescent child, for which there is no evidence. Arnst, however, has researched Crompton's statement by conducting a hair morphological test, which concluded that due to how fine, thin and curled the hair was, the samples did originally belong to young children.³⁰ It is possible, however, that, although hair becomes coarser as one becomes an adult, as old age begins to set in hair can once again become finer and finer (Tilstone 2006: 117).

Hair cutting rituals as a rite of passage into adulthood would not have been connected to the clay balls, because hair of older children is usually coarser than that found in the artefacts. My own conclusions after examining the hair was that it was too fine to belong to

²⁹ Clay balls examined: balls nos. 23 and 25.

³⁰ Personal communication with Dr Arnst on 8th July 2013.

an adult and perhaps too fine for a pre-pubescent child, thus potentially making the theory for the hair cutting as a rite of passage into puberty unlikely. It was, however, necessary to discuss this theory as it had been proposed by Tassie previously. This does not discount the possibility of the hair being associated with other rites including mourning, death and reaching childhood.

The hair of the clay balls vary from red to brown in colour and the shades are a common occurrence in ancient Egyptian hair with many mummies and samples of hair having been found of the same colour.³¹ Visual assessments of the colour of the hair found in the clay balls have been made using the Fischer-Saller Scale (Figure 8), which uses a scale of thirty strands to differentiate between shades; Blond (A-G), blond-brown (H, J), brown (K-V), brown- black (W), black (X,Y), red (using Roman numerals I-IV), and faint red (V, VI) (Birngruber and Verhoff 2012: 39-40). This lettering system has been used in this thesis when referring to specific hair colours.



Figure 8: Fischer-Saller Scale (Birngruber and Verhoff 2012: 39)

Ancient Egyptian red hair samples are often caused by either the natural colour of hair becoming faded with time in conjunction with the oxidisation of iron compounds in the hair (the hair itself being relatively resistant to decay) (Lucas 1926: 446); or by hair being

³¹ From the Middle Kingdom the hair of Karenen from Sakkara, and from the 18th Dynasty (New Kingdom) members of the royal family including Tuthmosis IV and Queen Tiye's are found to have a shade of red hair (Fletcher 1995a: 391, 467). Smith believes that Tuthmosis IV red hair was achieved through the use of dyes (1912: 44).

affected by environmental elements (Fletcher 2004: 97); or due to the dying of the hair with henna, which the ancient Egyptians preferred as a dying substance (Fletcher 2004: 98). Henna was used during the Dynastic period by the Egyptians and has been documented by Dioscorides (1934: 65-66; Fletcher 1995a: 470). Other dyes used for dying hair red involved a Gallic suet and ash concoction, elderberries or nutshells, or saffron and brambles (Corson 1980: 74; Fletcher 1995a: 470; Pliny XXVIII.li.191; Pliny XXVI.x.e.iii).³²

The colour of Egyptian hair is primarily a very dark brown, but other shades were present either through the natural colouring of hair or through dyes, which included blonde, light brown, auburn, and grey-white shades (Fletcher 1995: 464, 468). In ancient Egyptian depictions the colour used predominantly for hair is black, which was probably not only because of its frequency in real life, but also because of the negative connotations connected with red hair. Red hair was associated with the desert and the equally negatively perceived beings which lived within it, and which were associated with the god Seth. Manetho tells us of the burning of men with red hair, and their ashes strewn into the fields (Fletcher 1995a: 465). Despite this, red-brown or auburn is the second most common colour used for depictions of hair (Fletcher 1995a: 467). Furthermore, red-haired people could also be associated with the goddess Hathor; in the Book of the Dead (Chapter 148), one of the seven cows of Hathor is named *wrt mrwt.s dsrt snw*, “Much Beloved, Red of Hair/Hide” (Fletcher 1995a: 465; Taylor 2010: 140, 152-3). Offering bearers in the tomb of Queen Nefru are depicted as having short red hair, and on the stela of Vizier Senwosret officials and family members are also portrayed as being red haired (Fletcher 1995a: 465).

Sidelocks (a thick, singular plait hanging from the side of the head) is a hairstyle worn primarily by children, and are painted red in some depictions, such as an example of an

³² Pliny was alive between AD 23/24- AD 79 (Healy 1991: ix-xi), which corresponds to the Roman period in Egypt.

Amarna princess and a nomarch's young daughter (Figure 9; Fletcher 1995a: 465),³³ suggesting that children's hair was sometimes dyed. Thus, if the hair in the clay balls was dyed, then it is possible that these samples could still be related to a child and that the waves present could provide evidence for the hair being originally plaited into a sidelock.



Figure 9: Young daughter of a nomarch (Courtesy of Metropolitan Museum of Art).

Although the hair from the clay balls has clearly been cut, as opposed to being torn out, there is some evidence of hair dying to be found on ball no. 25. Upon examination there appeared to be a line between two colours evident on the hair (see Figure 10), with the darker colour being comparable to 'O' on the Fisher-Saller scale and the lighter colour being similar to 'H'. This could suggest the use of dye, possibly henna (Fletcher 2004: 130). Henna was used as early as the Predynastic period, and thought to have been used to hide aging (Bard 2008: 101). As part of my research, Professor Michael J. Went, Professor of Chemistry and Forensic Science at the University of Kent, and Annabelle Christi, Masters student in Forensic Science at the University of Kent, hoped to perform a Raman spectroscopy on a sample of this hair to determine whether dye was used. However, they have determined that such an experiment would not answer the questions posed by this thesis.³⁴ If the results of these tests had indicated that dye was used, then it would be appropriate to question why. If the hair did in fact belong to an elderly adult, as opposed to

³³ Metropolitan Museum of Art, New York. <http://www.metmuseum.org/>. Accessed 17th January 2014.

³⁴ Personal communication Professor Michael J. Went and Anabelle Christi on 14th March 2014.

a child, the henna could have been used to hide greying hair.³⁵ Alternatively, dying hair red could indicate a link to the goddess Hathor, who, as mentioned earlier, acquired the title “Red of Hair/Hide” (Spell 148, Book of the Dead; Fletcher 1995a: 465; Taylor 2010: 140, 152-3).



Figure 10: Ball no. 25- evidence of hair dying. Photograph: A.Hammett (Courtesy of British Museum)

Further scientific testing would have been ideal for directly aging or sexing of the person whose hair was placed inside a sphere of clay. However, such tests are not possible without the root of the hair, which holds the most reliable form of DNA for a hair strand³⁶ (Fletcher 1995a: 443; Jackson and Jackson 2008: 153), but unfortunately no follicles have been found on the hair inside the clay balls.

2.8. Overall Conclusion

The database incorporated into this thesis seeks to be as thorough as possible, allowing the typology to portray clear collections of clay balls with similar characteristics establishing a well-grounded start for further analysis to allow the reader to comprehend the differences between certain types of clay balls and to be open to the possibility of multi-functionality. The typology allows easy classification of future clay ball finds and has clear definition between types, for instance, inscribed balls are found in an early funerary context, as opposed the other types which are covered in seals impressions and were found in houses

³⁵ There are examples of elderly mummies which show the dying to greying hair such as the eight bodies found at Naga ed-Dêr (Fletcher 1995: 355). The greying hair touched up with dye on the body of Princess Nany (Winlock 1930: 19) is also testament to the attempts to hide greying.

³⁶ Personal communication with Dr Arnst on 8th July 2013.

at Amarna (18th Dynasty site). The determination of the type of clay used to create these balls opens up the discussion for the potential symbolism behind using clay from the Nile and leaving it unfired, in addition to clay's practical function (its close proximity to the population).

The production of the clay balls could have been conducted by any number of different people, including children, and would have consisted of rolling a small piece of clay between two palms in order to create a ball shape of only a few centimetres. The seal impressions found on the clay balls could have been copied or impressed by anyone who had access to a seal, although we must consider that the writing found may have needed some skill to paint or inscribe upon the clay.

The decoration of the clay balls have a wide range of themes, including flora, fauna, words, amuletic signs and names of kings and deities, but research into the interpretation of these symbols has been fairly limited, particularly those with seal impressions, which make up 26% of the clay balls. In the following chapters these will be discussed in detail, where appropriate, in addition to dedicating further research to the clay balls with contents other than hair. The focus on hair, like the focus on the writing on the clay balls in previous scholarship, has created a biased research base for the clay balls, which this thesis aims to level out. As the graphs have shown, there are many clay balls which have unknown contents, and even with comparing weights and diameters there is no correlation to allow predictability of content.

The most common content found in the balls is cut hair, ranging in colour from brown to red, and belonging to a young child. The waves present on the hair is indicative of coming from a braid, as recreated by the author, suggesting that the braid could have come from a sidelock worn by a child. Therefore, this thesis will focus on analysing the clay balls based on the information available, and from the patterns found in the typology.

CHAPTER 3 - CONTEXT OF THE CLAY BALLS

3.1. Introduction

This chapter focuses on the general context of the clay balls, including the chronology of Egypt, and details the sites where the clay balls were found. This is to aid the understanding of the database and typology created. This research will also highlight potential functions for each type of clay ball based on the evidence shown. In some cases the findspot infers another level of symbolism that the artefacts may have held by the ancient Egyptians.

Firstly, the chapter will address the general chronology of Egypt, so that the reader may easily identify the dynastic dates referred to throughout this thesis and to have a basic understanding of the political situation within Egypt at select times. The other section of this chapter will focus on the background of the sites where clay balls are found. For instance, the balls found in Giza (ball no. 127) and Denderah (ball no. 110) have not been addressed as we are not aware of the exact provenance these artefacts came from. Substantial attention will be dedicated to the site of Amarna, primarily due to the large proportion of clay balls found there, but also due to the large corpus of material relating to the site.

3.2. Chronology of Egypt

This section will address the context of the clay balls by providing an overview of the periods discussed in this thesis and will give a historical context to the clay balls, covering the time to which the clay balls are dated. The periods that will be discussed: from the Predynastic era (c.5300-3000 BC) to the end of the Roman occupation of Egypt (AD 395),

which is the known extent of clay ball use. Throughout this thesis, I will refer to dates using the dynastic dating system, which is separated by the various ruling families of ancient Egypt (Kitchen 1991: 201). These dynasties are grouped into a larger category encompassing a longer date, and these are referred to as Kingdoms (Old Kingdom: 2686-2160 BC; Middle Kingdom: 2055-1650 BC; New Kingdom: 1550-1069 BC), which are separated by periods of internal strife known as 'Intermediate Periods'. There is fragmented information about these intermediate periods and, due to the disorganisation of the time and, in some cases, an occupying force, are not suitable for studying Egyptian culture as part of this research.

The chronology of ancient Egypt is not easy to establish due to conflicting evidence that usually involves joint reigns, the unknown lengths of reigns (Kitchen 1991: 201) and the surviving king lists which ignore significant rulers, such as Akhenaten and Hatshepsut, who were thought to be unpopular. Archaeological finds highlight the flaws in king lists (usually found as monumental inscriptions) and cause an overlap in monarchs (Bronk Ramsey 2010: 1554; Sayce 1903: 347). Another source for dating comes from the third century BC priest and historian Manetho, who's book, the *Aigyptiaka*, provides us with a relative chronology of the kings of ancient Egypt, but there are only fragments of the work left and many discrepancies in it (Dillery 1999: 93; Hornung, Krauss and Warburton 2006: 33-36).

Problems with chronology occur even when a dynasty is well documented, such as the 18th Dynasty, which has much confusion and debate surrounding the reigns of particular kings. For example, we do not know the exact length of coregency between Amenhotep III (independent reign begins 1390 BC) and Akhenaten (Amenhotep IV; independent reign begins 1352 BC).³⁷ One of the reasons we are unclear about dates for Akhenaten's reign is

³⁷ Hornung (2006: 206) disagrees with this statement and supports Gardiner (1961: 213) in stating that no co-regency did in fact exist between the two pharaohs.

because his controversial policies regarding religion.³⁸ These policies were unpopular and consequently, this led to his name being erased from inscriptions and king lists (Stiebing Jr. 2009: 191). It is also unclear whether his successor, Smenkhkare, had an independent reign; while the exact lengths of the reigns of Ay and Horemheb are not known, although Horemheb is known to have died in 1295 BC (Giles 1997: 81).

To discuss the many discrepancies and debates surrounding the chronology of Egypt would be irrelevant to this study; therefore the dating system provided by the *Oxford History of Ancient Egypt* has been used to give a general overview of dates regarding the different eras and more specific dates for the dynasties significant to this thesis (2003: 481-489):

<p><u>Predynastic Period (c. 5300-3000 BC)</u></p> <p><i>Lower Egypt</i> Neolithic: c. 5300-4000 BC Maadi Cultural Complex: c. 4000-3200 BC - <i>Upper Egypt</i> Badarian Period: c. 4400-4000 BC Amratian (Naqada I) Period: c. 4000-3500 BC Gerzean (Naqada II) Period: c. 3500- 3200 BC</p> <p><i>All of Egypt</i> Naqada III/ Dynasty '0'- c. 3200- 3000 BC</p>
<p><u>Early Dynastic Period (c. 3000-2686 BC)</u></p> <p>1st Dynasty: c.3000-2890 BC 2nd Dynasty: 2890-2686 BC</p>
<p><u>Old Kingdom (2686-2160 BC)</u></p> <p>3rd Dynasty: 2686-2613 BC 4th Dynasty: 2613-2494 BC 5th Dynasty: 2494-2345 BC 6th Dynasty: 2345-2181 BC 7th- 8th Dynasties: 2181-2160 BC</p>
<p><u>First Intermediate Period (2160-2055 BC)</u></p> <p>9th and 10th Dynasty: 2160-2025 BC 11th Dynasty: 2125-2055 BC</p>

³⁸ These controversial policies are discussed later in the chapter.

<p><u>Middle Kingdom (2055- 1650 BC)</u></p> <p>11th Dynasty: 2055-1985 BC</p> <p>12th Dynasty: 1985-1773 BC</p> <p>13th Dynasty: 1773-1650 BC</p> <p>14th Dynasty: 1773-1650 BC</p>
<p><u>Second Inter (1650-1550 BC)</u></p> <p>15th Dynasty: 1650-1550 BC</p> <p>16th Dynasty: 1650-1580 BC</p> <p>17th Dynasty: c. 1580-1550 BC</p>
<p><u>New Kingdom (1550-1069 BC)</u></p> <p>18th Dynasty: 1550-1295 BC</p> <p>19th Dynasty: 1295-1069 BC</p> <p>20th Dynasty: 1186-1069 BC</p>
<p><u>Third Intermediate Period (1069-664 BC)</u></p> <p>21st Dynasty: 1069-945 BC</p> <p>22nd Dynasty: 945-715 BC</p> <p>23rd Dynasty: 818-715 BC</p> <p>24th Dynasty: 727-715 BC</p> <p>25th Dynasty: 747-656 BC</p>
<p><u>Late Period (664-332 BC)</u></p> <p>26th Dynasty: 664-525 BC</p> <p>27th Dynasty (1st Persian Period): 525-404 BC</p> <p>28th Dynasty: 404-399 BC</p> <p>29th Dynasty: 399-380 BC</p> <p>30th Dynasty: 380-343 BC</p> <p>2nd Persian Period: 343-332 BC</p>
<p><u>Hellenistic Period (332-30 BC)</u></p> <p>Macedonian Dynasty: 332-305 BC</p> <p>Ptolemaic Dynasty: 305-30 BC</p>
<p><u>Roman Period (30 BC-AD 395)</u></p>

Table 5: Chronology of Ancient Egypt

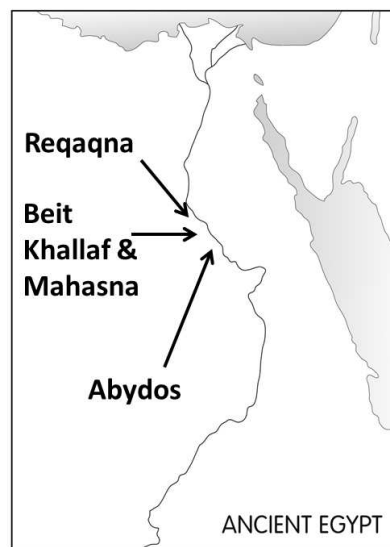
The Predynastic period refers to the time before Egypt became a unified country and consisted of two states: Upper and Lower Egypt. The Lower Egyptian culture was in the North, and the Upper Naqadian culture in the south (Mączynska 2011: 879). Despite this

separation, the presence of Naqadian artefacts in the North, and Lower Egyptian artefacts in the south suggests that contact of some form was maintained between the two halves of Egypt until they eventually merged into one society (Mączynska 2011: 879).

In spite of Egypt being thought of as one culture, there exists substantial evidence for regional variation. The differences in artefacts account for the use of local materials in the manufacture of products, rather than depending on trade to provide them with goods (Perry 2011: 1276). All of the main settlements on trade routes expanded in importance and power within the country (Wilkinson 1999: 46), with copper and gold being the main trading commodity (Chlodnicki 2008: 490). With the gradual move to unification, skills became more widespread and specialised, leading to explicit social stratification demonstrated by the vast tombs built by the elite and the luxury goods they possessed. At this time, burials consisted merely of pits with a few grave goods to accompany the body. At Naqada, Petrie found almost 2000 burials from the Naqada I period (although he was not aware of it at the time), but by the time we reach Naqada II (Table 5) the difference in elite and poor burials becomes noticeable archaeologically; the richer burials contained a greater number of items, as well as wider range of grave goods (Grajetzki 2003: 4-5).

The Old Kingdom sees the beginning of ancient Egyptian burial traditions with the progression towards mummification and the incorporation of more elaborate burial goods, such as models of daily life activities. The development of religious beliefs occurs with the increased importance of the cult of Osiris, which consequently affected ancient Egyptian burial rites, such as the development of mummification (Grajetzki 2003: 15-39). Architectural engineering also advanced with the building of King Djoser's (2667-2648 BC) step pyramid in the 3rd Dynasty, which was the first large stone building ever completed (Malek 2003: 85).

The major settlement sites of the Old Kingdom include Abydos (Petrie 1904), Mahasna, Reqaqna, and Beit Khallaf (see Map 4: Garstang 1903; 1904). The excavations at Mahasna and Reqaqna led to the discovery of Third Dynasty tombs, and several large mastabas (a type of tomb structure) from the same period at Beit Khallaf. Reqaqna provided seal impressions bearing the names of kings, offering reliable evidence for this time period (Wilkinson 1999: 5).



Map 4: Major Old Kingdom Sites

The 5th Dynasty was a major turning point in ancient Egyptian religion, because of the increased importance of the cult of the sun god Ra, which resulted in the building of sun-temples, making Ra virtually the first state god. The first temple was built by Userhaf (2494-2487 BC), and the six kings following also built temples for the god. Nonetheless, the rise in importance of a “state” deity appears to have had little impact on local beliefs, which continued to be worshipped (Malek 2003: 98-99, 101).

The tradition of pyramid and temple building continued into the 12th Dynasty (Belmonte et al 2008: 229) but only a few temples from this period have survived (Arnold 2005: 74-85; Stevenson Smith 1969: 277). The only large scale temple surviving from the Middle

Kingdom is from the site of Lahun (O'Connor 1995: 327). With the increasing number of temples, this naturally led to an increased number of priests (Russo 2007: 207).

The creation and expansion of the Egyptian empire is one of the defining factors of the New Kingdom years (Table 5): at this time Egypt expanded into the Near East (what is now known as Syria, Israel and Palestine) which can be seen on monumental architecture (for examples, see Breasted 2001 and Pritchard 2006) and in correspondence, such as the Amarna letters (Moran 1992). This expansion led to Egypt's domination of the area, but despite this the Near Eastern cultures (including Egypt) influenced each other's religion, art and technology (Kemp 1978: 50).

Temple building developed in the New Kingdom, particularly in the increased scale of the sites. The materials for temple construction changed from mudbrick to stone, which helped to support the large structures (Kemp 2006: 248, 252). By building temples on a larger scale, the Pharaohs sought to establish their reigns by reminding the population of their connection to the gods (Bell 2005: 137-140). Alongside the King's ambition to strengthen his reign, the cult of Amun also amassed substantial power (gained through its accumulation of wealth and the influence achieved as a religious cult) and had to be carefully controlled by the king (Sauneron 2000: 170).

Akhenaten resented this power and sought to suppress the cult by causing a religious upheaval; he threw out the polytheistic beliefs and attempted to impose a monotheistic religion of Aten upon the people of Egypt. Akhenaten moved the court from Thebes to a brand new city at Amarna (Akhetaten). This transition is referred to as the Amarna Age, spanned twenty years, until Tutankhamun's third year on the throne, which brought the renewal of the polytheistic beliefs and the return of the court to Thebes (Hennessey 1997: 349; Moseley 2009: 203).

Towards the end of the New Kingdom uprisings against King Ramesses III (1479-1425BC) and famine drove many people from Greece, Syme, Naxos, Sardis and Anatolia, to emigrate to other places, such as Egypt (Herodotus 1.94; Diodorus 5.53; Astour 1965: 255; Redford 1992: 244; Wainwright 1960: 24-25). Following on from above, there are only two other balls known, with insecure dates from Greek and Roman periods. After Alexander the Great's conquest of Egypt (332 BC) and his death (323 BC), the Ptolemaic family gained control of the country (Hölbl 2001: 13; Lloyd 2003b: 388-393). The Egyptian religion was adopted by the Ptolemies, with the king and queen relating themselves to the deities Osiris and Isis to warrant their control of the country (Vandorpe 2010: 163). The god Serapis was a deity who took on the characteristics of both Osiris and Dionysus. In an attempt to try and integrate Greek religious beliefs with those of the Egyptians, the Ptolemies eventually erected forty two temples in Serapis' honour in Egypt (Hanrahan 1962: 38, 43).

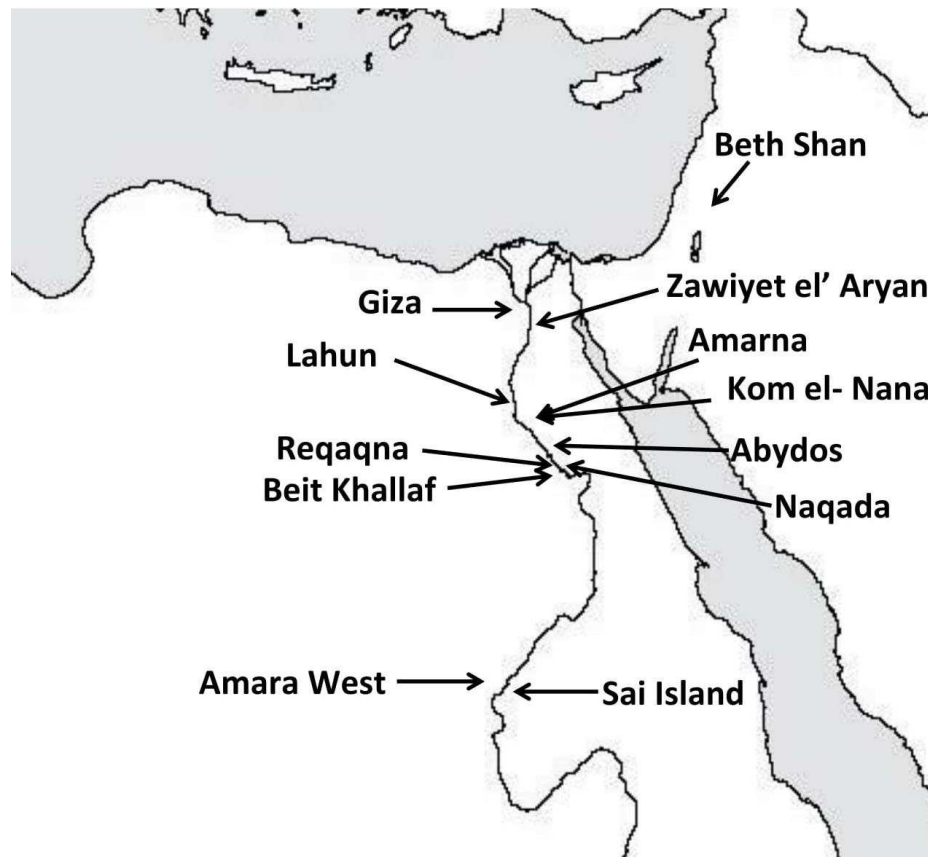
During the Roman period (beginning with the invasion of Egypt in 30BC), specific cultures are hard to identify because due to inter-marriage of the Greeks and Romans with the native Egyptians, it is likely that they identified themselves with both cultures. Language, clothes, hairstyles, and names are all non-indicative of ethnicity in this period as these elements were all adopted by settlers (Bagnall 2000: 17-20; Walker 2000: 14-16). There is evidence of Romans adopting Egyptian customs, however, such as the mummification process (Bagnall 2000: 17-20; Walker 2000: 14-16), which was altered to reflect their own style by adding painted funerary portraits, thereby making them appear very different to the traditional cartonnage Egyptian style (Grajetzki 2003: 29, 127-131; Riggs 2002: 85). The state also continued to build temples in honour of the Egyptian gods (Finnestad 2005: 185-237; Peacock 2003: 414).

The rule of Constantine established Christianity in Egypt³⁹ as the official religion of the country and this led to the formation of the first National Coptic Egyptian church at the Council of Chalcedon on the 8th October 449 BC (Griggs 2000: 207, 209). Islam was later introduced with the Arab invasion of Egypt (AD 639) (Capponi 2010: 193, 195, 196; Christides 2016: 1), but it is possible that throughout all of these ritual and religious changes some remnants of the ancient Egyptian culture may have trickled through into the modern world. The clay ball ritual performed by both Muslim and Christian families in Egypt may be an example of an ancient ritual that has been altered with time and influence, but still retains the same fundamental meaning behind it. Such anthropological comparisons are significant as they show that an object with a mundane appearance can hold important meaning, particularly with the inclusion of body parts.

3.3. Background of the sites

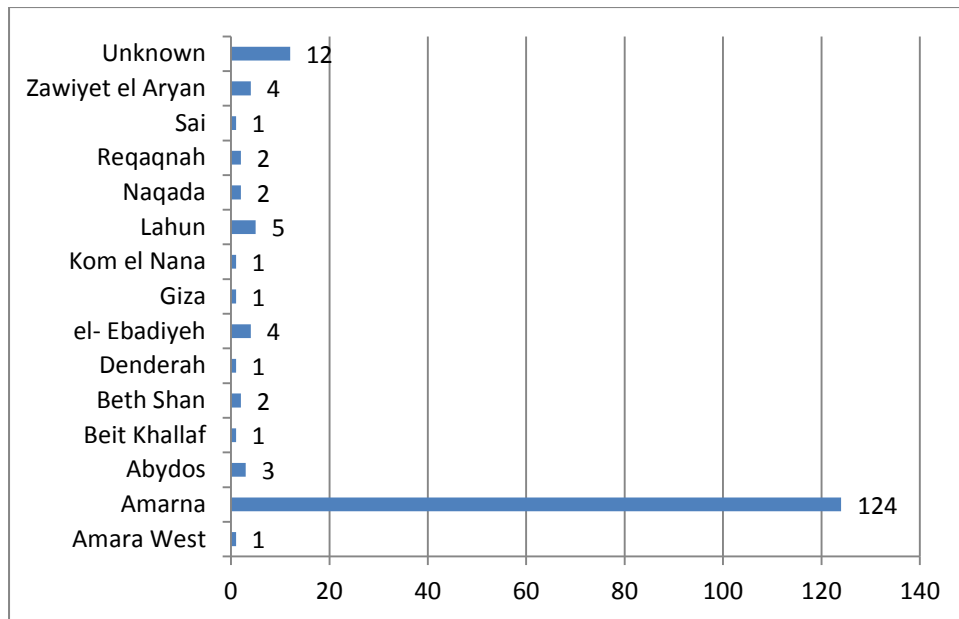
After discussing the Egyptian dating system and seeing the long period of clay ball use, we shall now discuss their geographical spread. From as far north as Giza to as far south as Naqada (outside of Egypt the balls are found further north in Beth Shan, Israel, and as far south as Sudan), the clay balls prove to be geographically widespread (Map 5). The survival of the balls is largely due to the fact that 44% of them were excavated at the site of Amarna, where many small finds have survived in situ because of the remarkable preservation of the abandoned site (Aldred 1988: 295-6). As mentioned above, the city of Amarna was established by the pharaoh Akhenaten as his chief residence during the 18th Dynasty (Aldred 1988: 278), but by the 3rd year of Tutankhamun's reign (1333 BC) the royal court moved from here back to Thebes (Hennessey 1997: 349; Moseley 2009: 203) and consequently the city was abandoned (Aldred 1988: 295-6).

³⁹ The date of the initial introduction of Christianity is debated (see Griggs 2000: 13-43).



Map 5: Sites where Clay Balls are Found

The site at Lahun is the largest ancient Egyptian town that has been excavated. It is located at the entrance of the Fayum (Quirke 2005: 1), and was used as a burial ground for a thousand years before settlement was established (Quirke 2005: 3). The rock cut tombs built by the local people were reused several times in later periods, particularly during the 1st millennium BC (Quirke 2005: 121).



Graph 13: Sites where Clay Balls are found

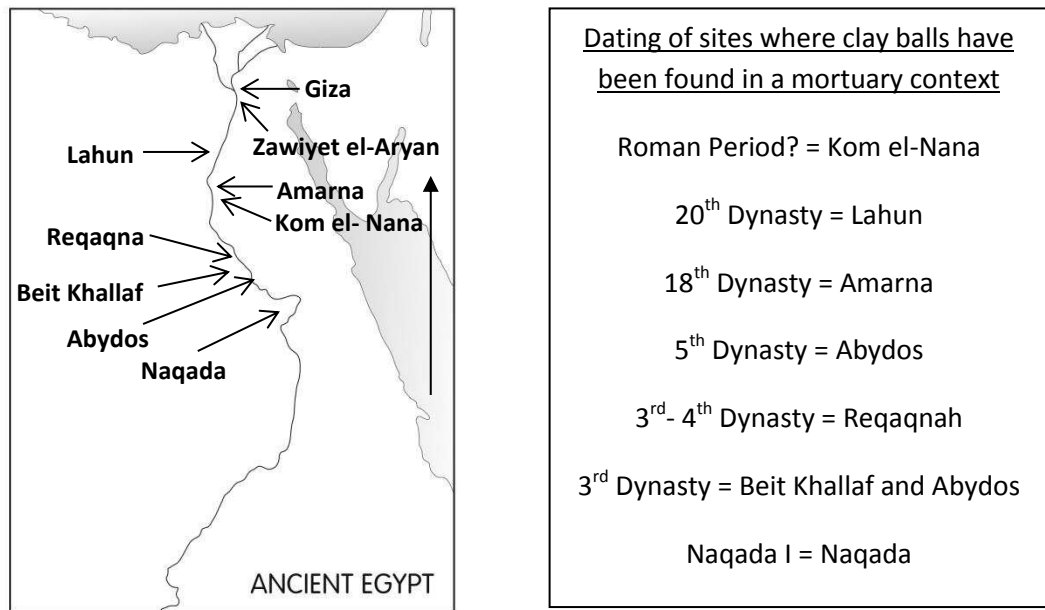
Reqaqnah is a cemetery site excavated by John Garstang (1904; Wilkinson 1999: 5), who was also responsible for excavating Beit Khallaf. In addition to the huge mastabas, the most important finds from Beit Khallaf were the seal impressions, one of which displays the earliest use of the cartouche to encircle a royal name. Both of these sites are situated in Upper Egypt, slightly north of Abydos (Wilkinson 1999: 5), and from both sites clay balls were discovered.

Naqada was a large Predynastic site situated in Upper Egypt and, due to the presence of rich burials, archaeologists thought that it might have been the capital for a small Egyptian state (Kemp 2006: 78-81). Only one ball, no. 33, was found in a burial. Towards the end of the Predynastic period, another site grew in importance, Abydos, located on the edge of the desert and near the Nile river. It became religiously significant in the Middle Kingdom as the centre for the cult of Osiris and was a place of pilgrimage (Kemp 2006: 89). Here, three clay balls were found, all from 5th Dynasty mastabas, and two other clay balls were discovered with no provenience, but dated to the 3rd Dynasty based on the burial goods found with it.

The discovery of two Egyptian clay balls at the New Kingdom temple site of Beth Shan (in modern day Israel), one from the Sudan and another from Nubia shows that the use of clay ball practice potentially could have been farther spread than Egypt, but currently these are the only examples found outside of Egypt. This spread could either be a result of trade, or can show the movement of Egyptians into foreign countries and their continuation of home practices.

Clay balls are found in mortuary contexts at all of the excavation sites, apart from Beth Shan⁴⁰ and Dendera (dedicated to Hathor), where they were found in or near a temple complex. However, recently there was a discovery of clay balls in the grave of a child at Amarna, prior to this they had only been found in houses at this site. This has changed our understanding of the site (Stevens 2013; Stevens, Shepperson and King Wetzel 2013: 13). This recent discovery at Amarna has now made it possible to argue that the clay balls' function may have been served in ritual connected to mortuary practices, with those found domestically either having a purpose associated with the home or a served a multifunctional purpose.

⁴⁰ The deity that this temple is dedicated to is not specified in either James (1966) or Rowe (1940).



Map 6: Clay Balls from a mortuary context

Map 6 shows the dating of sites where clay balls are found in a mortuary context and what can be seen, if Kom el-Nana is considered an exception,⁴¹ is the geographical movement of clay balls from Southern Egypt to the North via the Nile, and over the progression of time (indicated by arrow in Map 6). Starting at Naqada (Naqada I period), then reaching sites such as Beit Khallaf, Abydos and Reqaqnah in the Old Kingdom, then arriving at the sites of Amarna and Lahun in the New Kingdom. Zawiyet el-Aryan was not included in this, as these clay balls have only been dated non-specifically to the New Kingdom. This pattern of distribution spread may be related to the fact that the river Nile flows south to north; thus ideas and practice may have spread this way. As it stands, this geographical spread through time could suggest that all the clay balls found in a mortuary context did serve the same purpose (or at least a similar one) and they were used for this function for an extensive period of time.

⁴¹ The date for this ball is potentially incorrect, see chapter 5 for further discussion.

Conversely, the clay balls found in domestic contexts may not prove to be an anomaly. The site of Amarna is an unusual archaeological site in that it is a deserted city which has been preserved intact. Only items of value, such as metals, were removed over time (Aldred 1988: 295-6). In contrast, many of the other sites have been subjected to continuous use and thus any clay balls could have easily been destroyed during this occupation. It could be argued that because all the domestic clay balls are found at Amarna, as well as a few examples found in burials, the city should, therefore, be seen as a site which gives scholars vital evidence of the extended or multiple use of the artefact, as discussed in chapter 5.

3.4. Predynastic Findspots

Beginning with the earliest of the findspots of the clay balls, we start with the site of Naqada, south of the later town of Ombos, where Petrie excavated over three thousand tombs which he designated “the New Race” (Petrie and Quibell 1896). We now know this to be evidence of Egypt’s predynastic culture, otherwise known as the periods Naqada I to Naqada III (Castillos 2003: 7).

During ancient times the burials at Naqada were looted, causing disturbance to the bodies and thus archaeologists are only able to assess those which have not been tampered with and remained in their original positions (Petrie and Quibell 1896: 30). Another obstacle to further research is that the quick publication of the site by Petrie meant that there was no time to publish the details of all the burials found, and thus only select graves were kept (Castillos 2003: 7). For this reason, there is no distinct record for the clay balls found in tomb 1251 (ball no. 33; Group K) and tomb 17 (ball no. 34; Group N). There is one drawing for a tomb 17, however, a clay ball is not featured, so it is difficult to determine whether the artefact was correctly assigned to this tomb or whether the clay ball was mistakenly left off of the drawing.

Another Predynastic site where four clay balls (nos. 111- 114) were found is at El-Ebadiyeh (Diospolis Parva), and once again they were excavated from a mortuary context (grave B56). The site itself was used for an extensive period of time, from the Predynastic period, with cemeteries of the Old and New Kingdoms, to as late as the Ptolemaic and Roman periods (Petrie and Mace 1901: 31). Cemetery B from Diospolis Parva has one of the largest and varied collections of graves from this site, and contained a large quantity of Predynastic finds. The documentation of the specific graves where the clay balls were found (B56) is not detailed, with the only comments stating “parts of two bodies left. Pottery and stone vases at north end, with clay balls” (Petrie and Mace 1901: 32). Although photographs of the finds have been included in this publication to allow further study (Figure 11), the photographs do not include close ups of individual finds, making it difficult to determine whether any decoration, or other features are present on the objects.⁴²

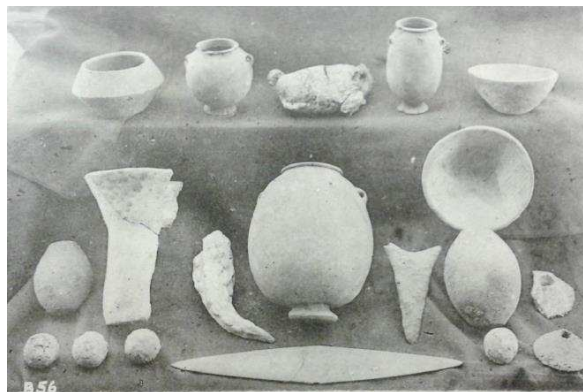


Figure 11: Grave goods from B56 (Petrie and Mace 1901: Pl. V)

3.5. Third to Fifth Dynasty Findspots

Dated to the 4th Dynasty, the mastaba R50 at the site of Reqaqna (Figure 12), where balls no. 105 and 106 were found, may have belonged to someone of importance and/or wealth, because of the size and decoration of the tomb (Parker Pearson 1999: 73-75). Graves of

⁴² Other finds from this grave include two basalt stone vases (Type H.56 and M75) (Petrie and Mace 1901: Pl. IX).

ordinary people were simple, but the wealthier began creating large brick structures on top of their tombs, known as mastabas, which would facilitate the deceased's funerary cult (David 2000: 9; Grajetzki 2003: 11). A number of shrines and plastered walls, which may have been decorated, have been found inside the mastaba, but is unfortunately rather empty of small finds. There were some stones inscribed with the words "suten rekh (Friend of the King)" as translated by Garstang (1904: 31-2), which could indicate the owner of the tomb possessing high status during life (further discussed in chapter 6). The only other artefacts mentioned were the clay balls, of which "a number" were found in a small hole made in the wall of the north-west corner of the tomb (Garstang 1904: 31-2). The precise number of clay balls found is not indicated, like those found in the mastaba at Abydos, but only ball nos. 105 and 106 are traceable to this context from museum records.

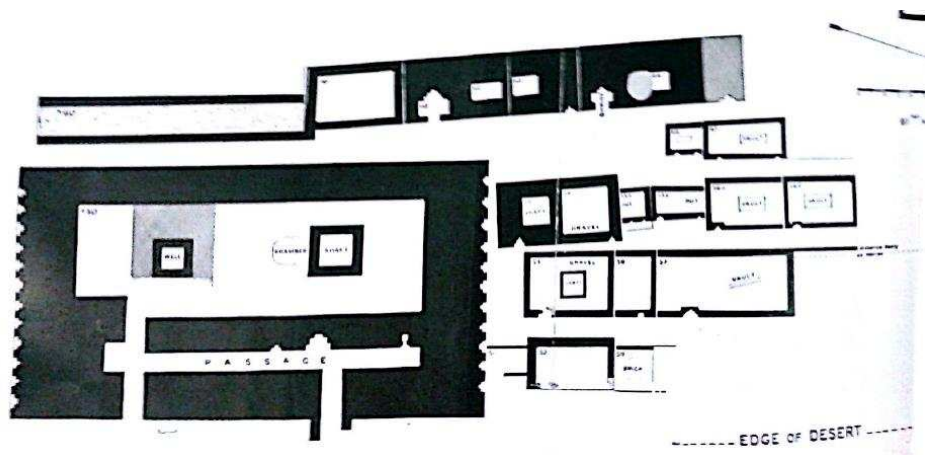


Figure 12: Mastaba R50 (Garstang 1904: Pl. XXI)

3.5.1. Abydos

Three of the clay balls were found at the site of Abydos and the records state they were found in mastaba 124 in cemetery D (ball nos. 26, 27, 28). The citizens of Old Kingdom Abydos buried their dead here. This cemetery was located to the north of the town and only consisted of 29 small shaft graves and two mastabas, all of which had limited grave goods (Richards 2005: 133).

Religiously, Abydos was considered important; it was a centre for pilgrimage in Upper Egypt (Zingarelli 2010: 13), and was a sacred city due to its association with Osiris (O'Connor 2009: 74; Richards 2005: 129; Sety and el-Zeini 1981: 2; Snape 2010: 121; Wegner 1996). The connection with Osiris may have led this city, to become a cult centre for the god Horus and for many of the early kings to be buried there (Bard 2003: 60, 65; Naville 1914: 7; Sety and el-Zeini 1981: 3, 7).

The excavation reports generally inform us about the structure of the Abydos' mastabas, stating that the pits are cut into the sandstone, and a brick superstructure is placed on top, and then the mastaba was filled with sand. A lack of entrance to the mastaba must have meant that there was an area outside for libations to be made (Peet 1913: 8). Specific details of construction of individual tombs, however, are omitted, but the excavation report does detail the position of the body underneath an inverted bowl: "body tightly contracted, on right side, head south-east. Right arm placed, as frequently, in such a way that the forearm is in a vertical line" (Peet 1913: 11). The clay balls' were found at the north-east of this mastaba, in a sand filling (Peet 1913: 20).

The information regarding the clay balls in this publication is limited, as the exact position of the balls was not recorded, neither is this level of detail present for other graves containing clay balls, preventing comparison. The precise number of balls is not recorded in the excavation reports, but is later estimated by Peet to have been approximately forty⁴³

⁴³ As there is no clear indication of exactly how many balls were found, only those which have been directly discussed by Peet have been included in the database.

(Peet 1915a: 8); only two of which we have a record of today (ball nos. 26 and 27). I have discovered a further three excavated from this provenience from museums records (ball nos. 76, 105 and 106). Additionally, there are two clay balls held by Manchester Museum (ball nos. 74 and 75) which were found at Abydos and have similar inscriptions on the outside of the balls as those found in mastaba 124 (Group A; Appendix 2; further discussed in chapter 6), but have no provenience within the site. It is possible that ball nos. 74 and 75 may have also come from this mastaba as well, but there is no evidence to support this.

3.6. New Kingdom Sites:

3.6.1. Amarna

This section covering the site of Amarna will be the largest due to the high proportion of clay balls found at the site, as well as the full research that has been conducted on the site. In order to make the section easily navigable, I have separated them into city sections (as they are in the excavation reports), such as main city, north suburb etc. Within each of these sections I will address each grid square where the clay balls were found, and will discuss the individual houses, if information is available for them.

The building of this new ‘artificial’⁴⁴ settlement in the 18th Dynasty is attributed to Akhenaten and his commitment to the cult of Aten⁴⁵ in his fifth regnal year and by his ninth regnal year the court had moved to Amarna (Johnson 1996: 81-2). The occupation of the city did not last long, only fifteen years, however, and by the early part of Tutankhamun’s reign (approximately 1139 BC) the capital had moved back to Thebes (Hennessey 1997:

⁴⁴ Built for a specific purpose such as military or ceremonial uses, usually created by the state, rather than a natural settlement which is convenient for human life, such as close to farm land and water (Zingarelli 2010: 13). This concept, however, is extensively argued by Kemp (1997b).

⁴⁵ This theory is explored thoroughly by Johnson (1996), who discusses the evidence which could suggest that the building of Amarna had actually begun during the reign of Amenhotep III.

349; Kemp, Buckland and Stevens 2010: 187; Moseley 2009: 203), eventually leaving the city deserted, leaving it archaeologically preserved in time (Shaw 1995: 223).

Modern cultivation has prevented excavations by the river's edge, but the majority of the city still remains unexcavated in the desert, allowing for future excavations to proceed (Kemp 1977: 123). The housing areas have been thoroughly excavated, but there are large areas which still need to be investigated (Kemp 1993: 30).⁴⁶ Unlike many other sites, Amarna seems quite widespread as a city, likely because of the large amount of land available in the area (Kemp 1977: 125). In the main part of the city there is a system of regularity with all of the streets coordinated at right angles, but when looking at the organisation of housing groups there is a lack of uniformity. These groups of houses consist of different size dwellings. Large houses with more additional space, is found nearby a confined cluster of small houses (Peet et al. 1923: 53).

The large houses, although they have many corresponding elements to them, were not built uniformly in exactly in the same way. This could imply the personal design of the owner, as opposed to a set uniform structure (Spence 2004: 126). Recent evidence has highlighted that houses could have possessed a second floor, with the smaller houses using the walls to support the beams, but larger houses needing column bases to support them (Spence 2004: 125).

Houses, in combination with one's rank, family, social circle, and one's personal possessions, were a form of exhibiting wealth and status (Crocker 1985: 52; Kemp 1977: 128). Small finds within houses do not necessarily provide clear indication of the profession of the owners or those who dwelt there; only buildings, such as the Sculptor's Workshop, provide enough evidence from the archaeological record to allow this. Furthermore, the

⁴⁶ Grid 12 has more recently been excavated (2002) and unlike Borchardt and Ricke (1980) and Frankfort and Pendlebury's (1972) excavations, this included a concentration on small artefacts (Kemp and Stevens 2010: 5, 6).

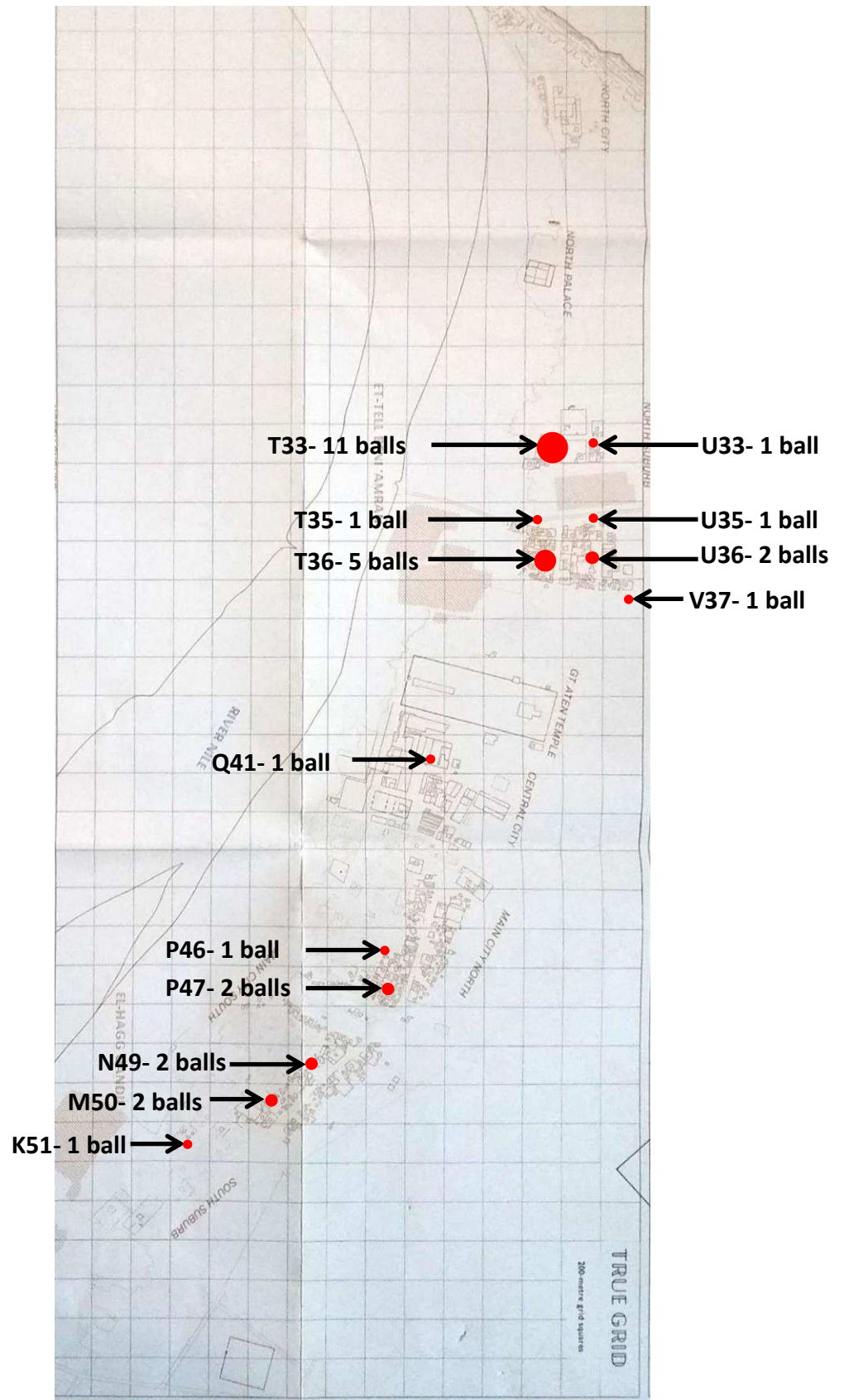
small finds found may have belonged to the servants that worked in the homes, rather than the owner themselves (Kemp 1977: 137).

The abandonment of the settlement has resulted in the city being preserved in time, including the conservation of a considerable amount of artefacts, which would not have survived on a site which was continuously occupied. This could explain why the site of Amarna is the only site where clay balls were found in a domestic context. Until recently the clay balls at Amarna had only been found in a domestic context, but in 2013 two clay balls were discovered in a child's grave as stated (Stevens 2013). The presence of the clay balls in two different contexts at one site could suggest that this may have occurred at other sites also, but with the continued occupation of other sites it is unlikely that evidence will be found to substantiate the claim.

Within houses 56 clay balls have been found, some specifically found in 'bedrooms', but there are also a number of the artefacts which have no specific provenience recorded within the city. The known proveniences will be described one by one in area groups, but those with no known information about them will not be covered. There are occasions where the provenience of a clay ball has been recorded, but the excavators have not provided further details about the building or street it was found in. When these examples occur, they have been plotted on the relevant maps (Scale 1:1000) to show distribution in the area, but are not explored in the text as there is no further information regarding them. The information gleaned from this study of the findspots will be brought together and analysed at the end of this section to allow greater ease in exploring and comparing the material.

The clay balls are found throughout the city of Amarna, including in the central city, the main city, the North Suburb, the South Suburb and the Workmen's Village. The excavators have designated the areas using letters H-V and numbers 21-67 to designate a particular

grid square. To identify a particular building they are designated with a period and a following number, for example Q49.19 would mean that house number 19 in grid square Q49. Map 7 indicates how many balls were found in each grid square.



Map 7: True Grid of Amarna with general clay ball locations (Kemp and Garfi 1993)

Amarna, Main City:

Grid Square M50

Findspot M50.15 (Figure 13), referred to incorrectly as house N50.15 in Woolley's publication (1922: 65), is classified as a "normal type small house", yet little remains of the structure. What survives is a wood column with pieces of plaster decorated with circular and petal patterns in bright colours. The patterns on this column, when compared to others found at Amarna, show that there was no prescribed design to the painted columns and reveal the artistic taste of the owner or artist. The only additional details available from this house is the finds list which, includes clay moulds, a Bes amulet, a "mud ball with seal impressions" (ball no. 58), a bronze chisel, a potsherd decorated with white on grey-black of Cypriote origin (Peet et al. 1923: 19; Woolley 1922: 65).

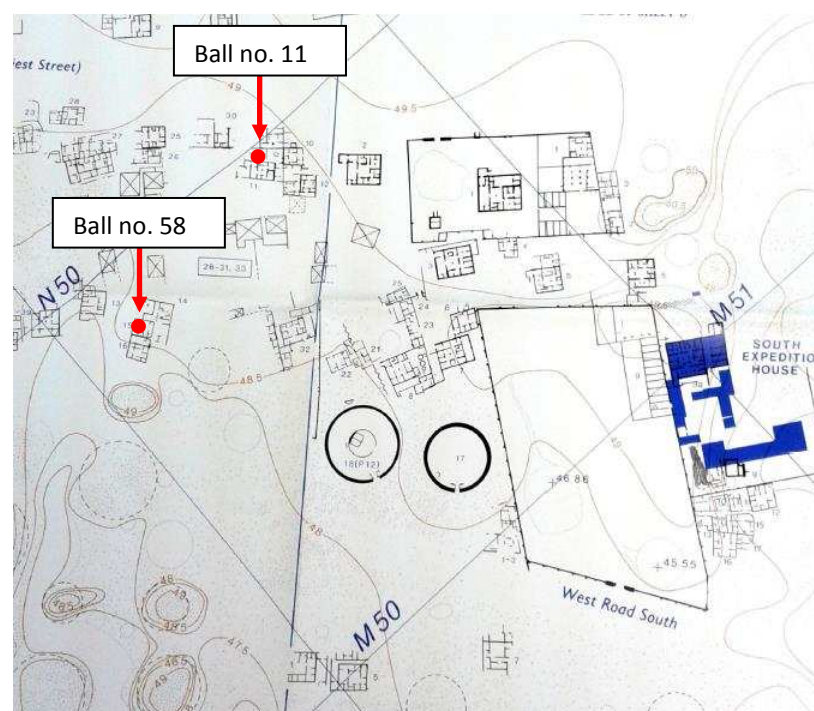


Figure 13: Grid Square M50 (Kemp and Garfi 1993: Sheet 7)

Grid Square N49

House N49.19 (Figures 14 and 15) is designated by the archaeologists as “unimportant”. It is unclear, however, whether the excavators considered it archaeologically insignificant, or the house was of no importance socially. The clay ball found here (ball no. 25) was accompanied with a number of different artefacts, including amulets, needles, ring bezels (with the name of Akhenaten and Sakere on them), and a piece of plaster with the cartouche of Queen Nefertiti (wife of Akhenaten) inscribed on it (Peet et al. 1923: 23). Another house with a clay ball, N49.35 (Figures 14 and 15), also has little detail in the site report, other than a comment on the thickness of the wall; however, it has been noted that Mycenaean pottery was found in the house, as well as a clay ball (ball no. 70; Peet et al. 1923: 26). Yet, according to the Amarna database these were not found together. The clay ball was found alone in Area 15, but there is no indication of where this area is in relation to the house. This could be due to the incomplete surviving records (Kemp and Garfi 1993: 30). Further information regarding where the artefacts were situated in relation to each other is included in the Amarna database, which reveals that the clay balls were found with no other artefacts in Area 1A of house N49.19 (the location of this area is not clear).

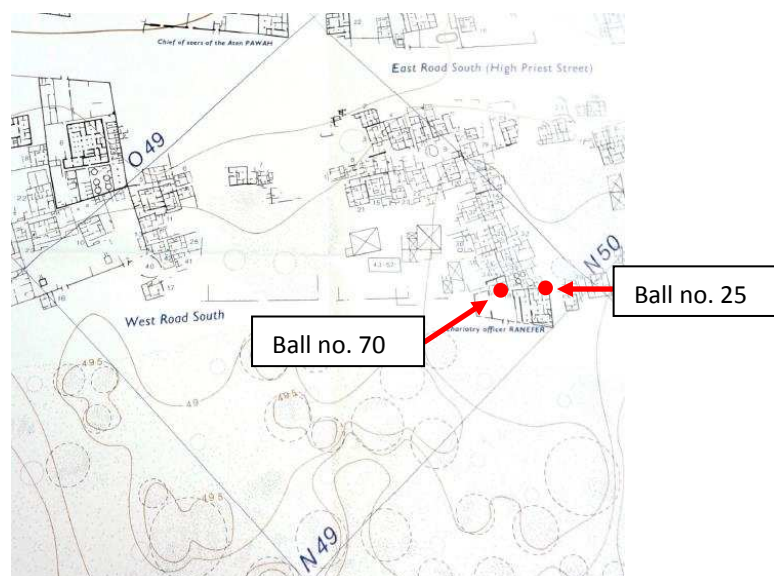


Figure 14: Grid Square N49 (Kemp and Garfi 1993: Sheet 7)

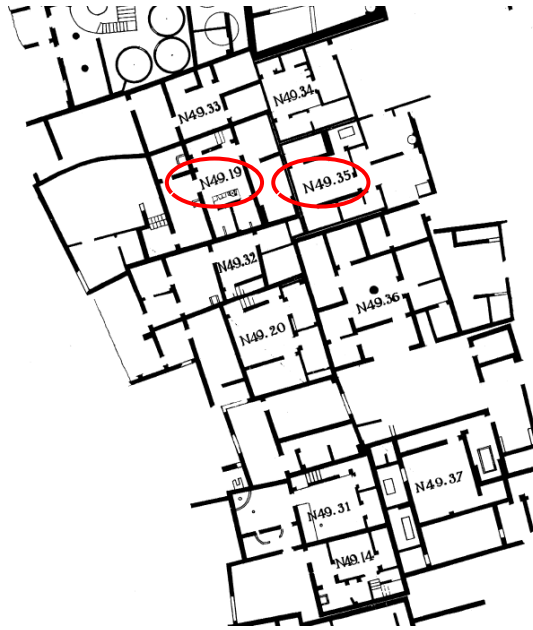


Figure 15: Houses N49.19 and N49.35 (Peet 1921: Pl. I)

Grid Square P46

House P46.15 (Figure 16) has been recorded in more detail than many of the others excavated in the 1920s at Amarna. Unusually, the features of each room are described and some measurements are provided. The clay ball found in this house is designated as a “stamped magic ball” (ball no. 93), differing from other designations such as “mud ball with seal impressions”. Why this difference has been made is not clear; it is most likely due to the records being made by different people. It is perhaps significant that an oven is present in this house. The clay balls were made of mud and were not fired, suggesting that the clay balls’ unfired state was a deliberate choice, rather than from lack of appropriate equipment.⁴⁷ Other artefacts found include amulets, moulds, a needle, and sherds of Mycenaean pottery (Peet et al. 1923: 33).

⁴⁷ Firing can take place in temperatures from 100°C (Cogswell, Neff and Glascock 1996: 283).

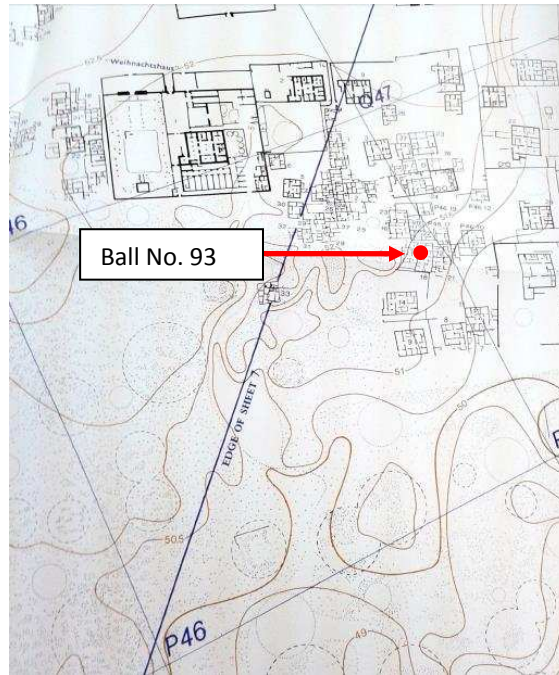


Figure 16: Grid Square P46 (Kemp and Garfi 1993: Sheet 6)

Grid Square P47

Ball no. 16 was found in building P47.1, the Sculptor's workshop, which is an example of the larger houses found at Amarna, where there is evidence for trader's workshops due to the tools and unfinished pieces of work found there (Borchardt and Ricke 1980: 87).

The eastern annexe of house P47.30 (Figure 17), unlike some other parts of this building, has been almost completely destroyed, preventing any further information from being available. In this case, the clay ball (ball no. 38) is found with artefacts including a bronze drill, a scaraboid and "large lumps of yellow paint" (Peet et al. 1923: 35).

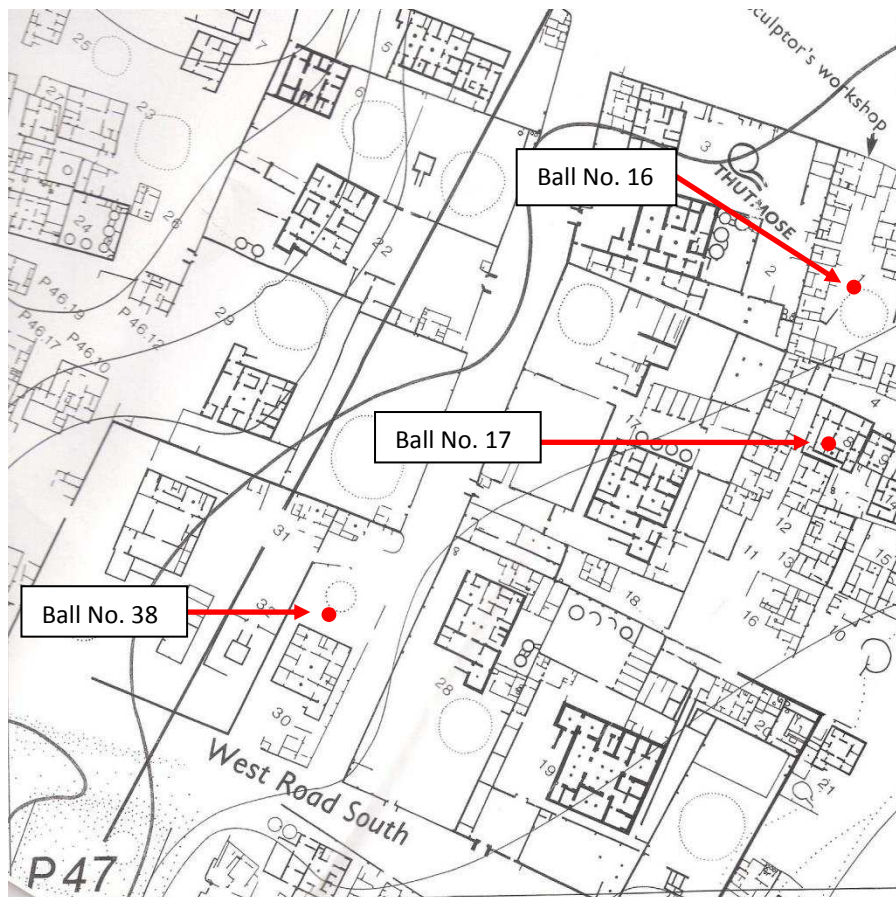


Figure 17: Grid Square P47 (Kemp and Garfi 1993: Sheet 7)

Central City:

Grid Square Q41

The central city at Amarna was composed of a number of government buildings, palaces and temples (Kemp and Stevens 2010: 476). The presence of the palace does not determine a place of residence for the king, because the small size of the building may have only rendered it appropriate for receiving officials. The likely residence of the king at Amarna, according to Kemp, was instead situated in the north city; the palace there was fortified, and away from the rest of the city providing the royal family with privacy (Kemp 1976: 92, 99; Kemp 2006: 284).

Only one ball (no. 67) has been found in the central city (Figure 18), and it was discovered in House Q41.14. The excavation map (Figure 19) shows the building consisted of 10 rooms,

and the adjoining large complex structure. There is little published about Q41.14, and, as a consequence, the exact provenience of the clay balls found here is unknown. Without further details of the other finds from this building, it is impossible to determine what the structure was used for, and who may have used it. Although there is a substantial percentage of clay balls excavated from the central city (20% of all of the clay balls), ball no. 67 is the only example found in close vicinity to government buildings and the King's house.

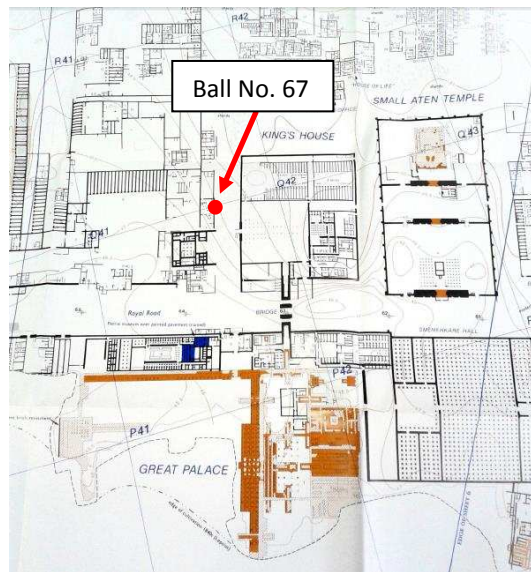


Figure 18: Main city of Amarna (Kemp and Garfi 1993: Sheet 5)

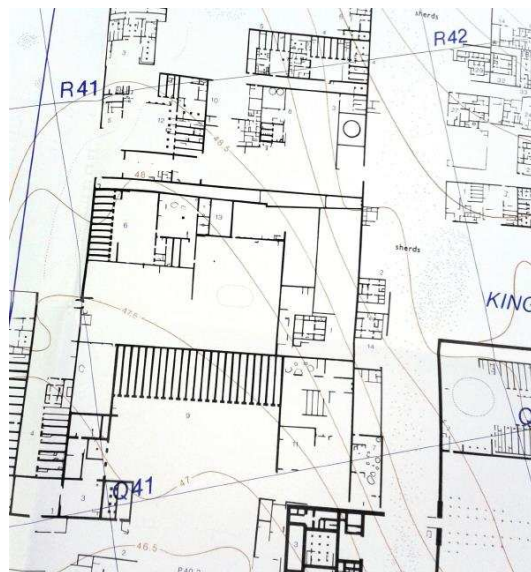


Figure 19: Q41.14 (Kemp and Garfi 1993: Sheet 5)

Grid Square Q46

In grid square Q46, four balls have been found (Figure 20). Ball no. 15 was found in the “Weihnachthaus” (Q46.1), which is a farmstead with a large house, stables, farms, and large garden with Aton temple (Borchardt and Ricke 1980: 23-24). The exact location of the ball within this extensive complex is unknown.

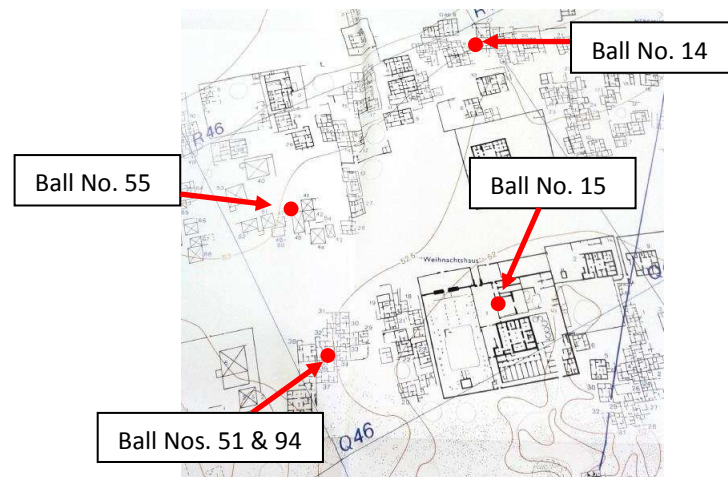


Figure 20: Grid Square Q46 (Kemp and Garfi 1993: Sheet 6)

North Suburb:

Grid Square T33

The eleven clay balls (ball nos. 68a-k) found in T33.7 were found in buildings A and B (Figure 21 and 22), but no structure or context has been recorded, which hampers efforts to understand more about their location, particularly considering that this is the largest group of them found in a domestic context.⁴⁸ A pierced faience ball was also found with them and, although no description was provided, may have resembled the faience balls discussed in chapter 4. Other artefacts include two objects with the cartouche of Tutankhamun, and another with the cartouche of Queen Nefertiti. A description of the

⁴⁸ The largest group of clay balls reaches a total of forty, and was found within a tomb at Abydos (Blackman 1925: 65).

structures themselves is minimal, but these are considered to be separate houses (Frankfort and Pendlebury 1972: 69-70, 79). It is likely that the archaeologists grouped the artefacts together because they thought that the structure was one house. Further evidence from the excavations conducted by Kemp may have proved the contrary, and thus the structure needed to be divided, indicated by the addition of a letter to the house designation.

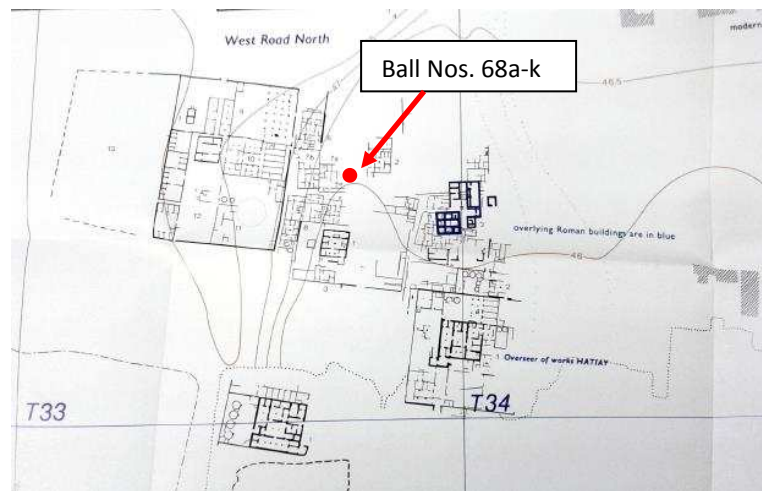


Figure 21: Grid Square T33 (Kemp and Garfi 1993: Sheet 3)

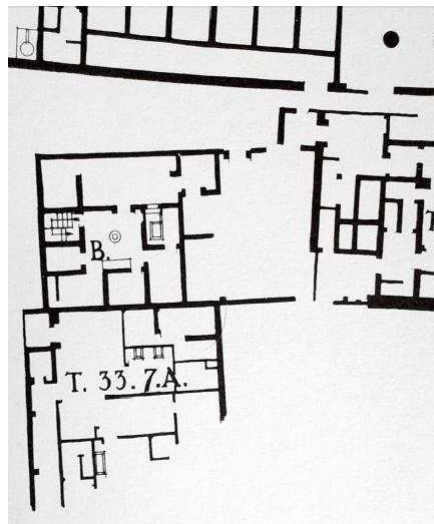


Figure 22: House T33.7.A and T33.7.B (Frankfort and Pendlebury 1972: Pl. X)

Grid Square T35

Half of house T35.25 was under modern cultivation, as indicated in the drawing below (Figure 23), but with the remains excavators were able to determine that the structure was built over an earlier one and the original level was used for the foundation (Figure 24), but the floor level was raised using sand. The clay ball (no. 62) found in this house is recorded in the small finds list, but is not part of the selected list of objects included in the house description. Aside from the usual finds of rings, pendants, and beads, the more unusual artefacts include a small stela with the figures of Akhenaten and possibly one of his daughters, in addition to a ring with the name of king Smenkhkare (1338-1336 BC) (Frankfort and Pendlebury 1972: 48, 83).

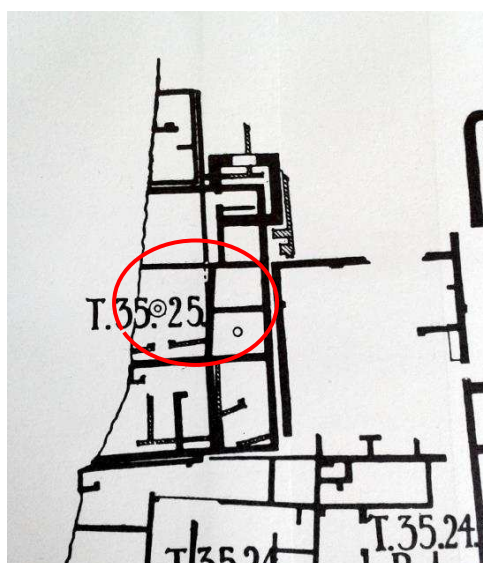


Figure 23: House T35.25 in central western quarter (Frankfort and Pendlebury 1972: Pl. VIII)

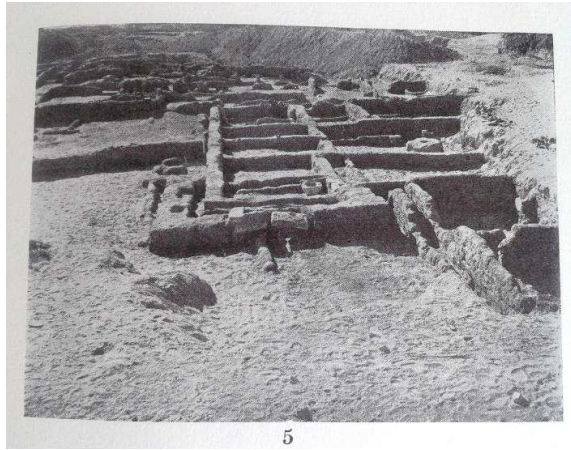


Figure 24: Excavation of T35.25 (Frankfort and Pendlebury 1972: Pl. XII.5)

Grid Square T36

Very little detail is provided in the description of house T36.60 (Figure 25) in the excavation report, *The City of Akhenaten: Part II*. However, as can be seen from the diagram below (Figure 26), only a few broken walls are present. Frankfort and Pendlebury surmise that this structure, which consisted of a large curving wall with a mud brick floor, may have originally been used as a factory for producing mudbrick. However, with the finds only consisting of fragments of a limestone figurine, a granite bowl, some pieces of painted or sculpted pottery, in addition to the usual finds of pendants and rings, there is little evidence to support this theory (Frankfort and Pendlebury 1972: 51, 87).

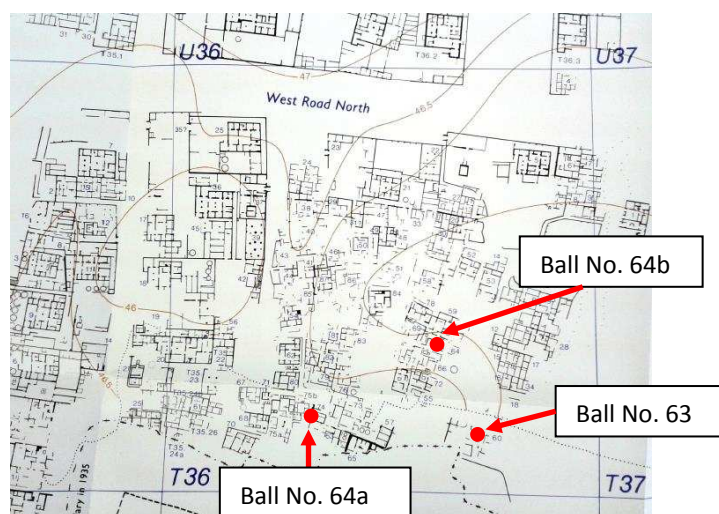


Figure 25: Grid Square T36 (Kemp and Garfi 1993: Sheet 3)

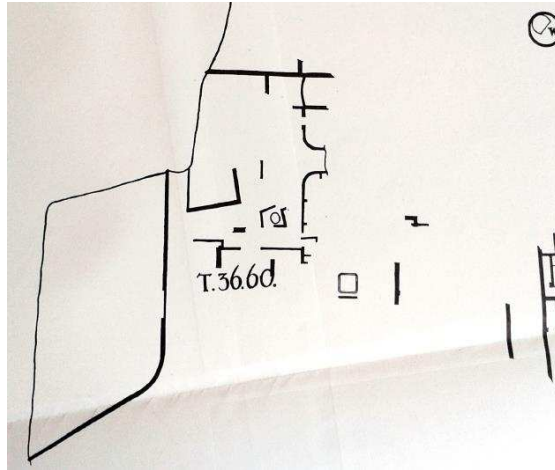


Figure 26: T36.60 (Frankfort and Pendlebury 1972: Pl. IX)

Like T35.25, half of house T36.63 is now under cultivation (Figure 27), and because of this it has not been possible to determine whether house T36.63 is part of a much larger estate, or whether it was an independent house. In addition, two clay balls (64a and 64), and the usual expected finds were discovered here (e.g. pendants, moulds, beads etc.), and more unusually, a painted bowl and fragments of two female nude figurines were also excavated from the house. In a lidded jar twenty two gold bars,⁴⁹ silver pieces and a silver figure of a Hittite god wearing a gold cap were found; these make up what is now known as the 'Tell el-Amarna Hoard'. The Hittite figure has been analysed and it is believed that the artefact reached Egypt through the Levantine trade (Castle 1992: 255; Gestoso Singer 2013: 254). Despite knowing so little about the house, Frankfort and Pendlebury have assumed that the hoard must have been a 'thief's loot' as it was found 'in the courtyard of a hovel', contradicting their earlier statement that it may have been part of a larger estate (Frankfort and Pendlebury 1972: 59-61, 88).

⁴⁹ These have all been weighed and do appear to have been part of a weighted system (Frankfort and Pendlebury 1972: 60).

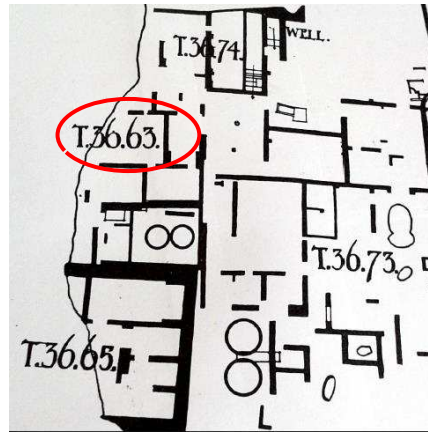


Figure 27: T36.64 (Frankfort and Pendlebury 1972: Pl. IX)

No description of house T36.64 (Figures 27 and 28) is provided, but the bad preservation of the walls (which have crumbled), is difficult for archaeologists to determine where the houses divide. Besides the clay ball (ball no. 64b), the finds from the house are listed: bronze fragments, a few fragments of stone, a piece of pottery with the head of Hathor on it, and the usual finds of moulds pendants, beads and scarabs. Unusually, there are four fragments of a “Late Helladic IIIa (Late Mycenaean A) false-necked vase” and a ring with the name of Amenhotep III (Frankfort and Pendlebury 1972: 52-53, 88).

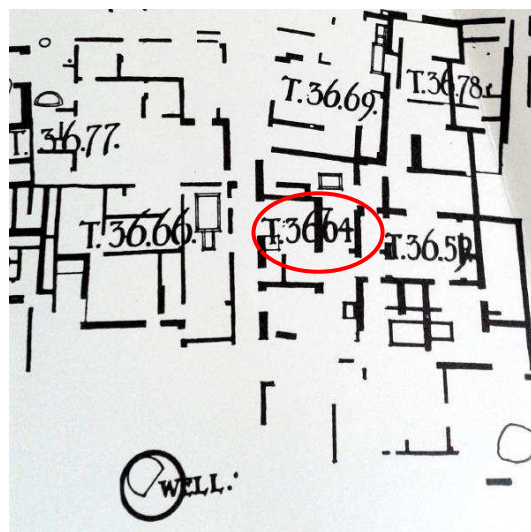


Figure 28: T36.64 (Frankfort and Pendlebury 1972: Pl. IX)

Grid Square U33

U33.1 is a small house with a number of other buildings attached (Figure 29), but the house itself has an unusual layout. Frankfort and Pendlebury note that there are no bedrooms, despite the presence of brick shelves in the north-western room. Their determination of what a bedroom is not discussed,⁵⁰ but in the opinion of Crocker bedrooms are difficult to classify and only as low as three per cent of the large houses are known to contain them (1985: 61), but a full discussion can be found later in this chapter. House U33.1 is a relatively small house, and thus is unlikely to have rooms exclusively reserved for sleeping purposes.

The ‘mud hair ball’ (ball no. 66) was found in the house with a large variety of different artefacts, including a variety of bronze objects, a whetstone, a clay die, a miniature clay saucer, scarabs, rings, pendants and beads. Exact locations of these artefacts have not been recorded, making it difficult to create a correlation between the clay balls and specific artefacts (Frankfort and Pendlebury 1972: 71-2, 90).

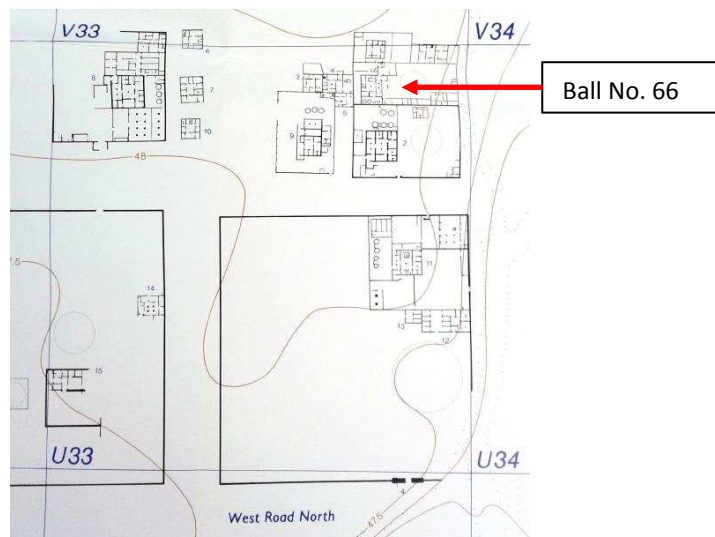


Figure 29: Grid Square U33 (Kemp and Garfi 1993: Sheet 3)

⁵⁰ Peet believes wall-shelving may have supported beds for sleeping (1923: 63).

Grid Square U35

In the *The City of Akhenaten: Part I* publication, only one clay ball (no. 57a) is recorded from house U35.17 (Figures 30 and 31), but there is no mention of the other two found (nos. 57b and 60), which are recorded in the Amarna database and Stevens (2007: 112, 114). No specific context was given for where the ball was found within the dwelling. Along with the ball, other objects were excavated in the house included a mirror, a bronze adze, a couple of clay figurines of nude women, a sealing and a stamp. In addition to the usual finds of rings, scarabs and pendants (Frankfort and Pendlebury 1972: 92), none of which has a context recorded by the archaeologists. The house itself, however, was discussed to compare with other homes and highlight its irregularities. The ladies' toilet apartment is in the unusual place of "the room to the north of this one (central room), i.e. opening directly off the Front Hall of the house" (Frankfort and Pendlebury 1972: 36), whereas usually they would be found at the back of the house (Spence 2004: 126).⁵¹

⁵¹ Spence explains that women's rooms tend to refer to the 'inner rooms' but are referred to differently depending on the scholar (2004: 127 n. 19).

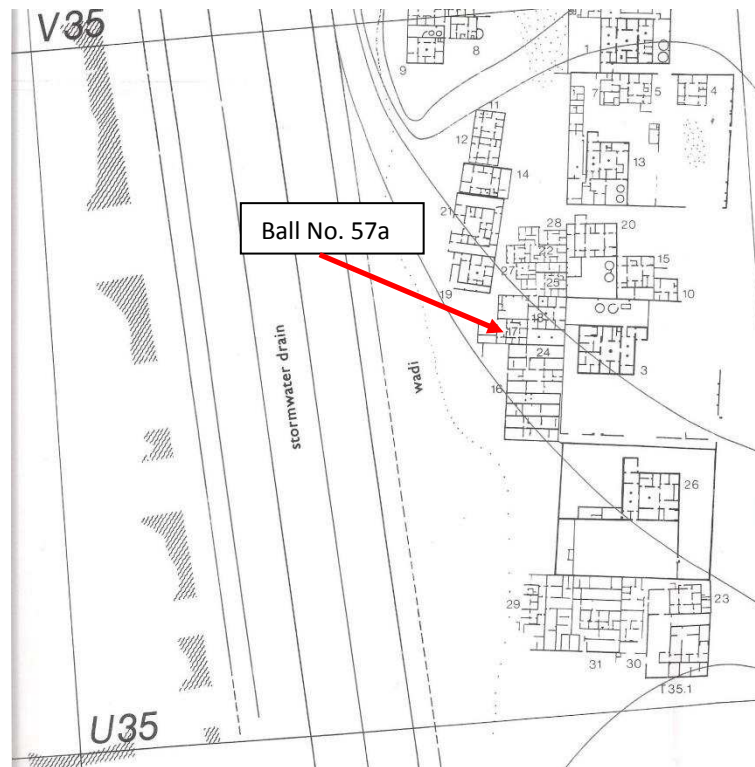


Figure 30: Grid Square U35 (Kemp and Garfi 1993: Sheet 3)

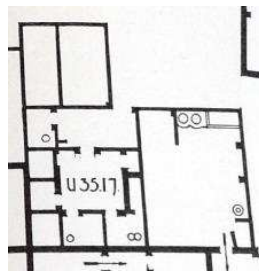


Figure 31: U35.17, northern quarter (Frankfort and Pendlebury 1972: Pl. VI)

Grid Square U36

A large, well-preserved house, U36.34 (Figure 32), had thick walls measuring 1.30m in depth (perhaps indicative of a second storey). A number of rings, scarabs and pendants were found in this house, including a ring bezel with the name of Akhenaten. Along with these artefacts were ostraka, two kohl pots and figures of the goddess Hathor. However, no balls were mentioned in the excavation catalogue (Frankfort and Pendlebury 1972: 22, 94). Nonetheless, two balls (nos. 59 and 67) are listed as coming from here on the Amarna Small Finds Database and Stevens' publication (2007: 112).

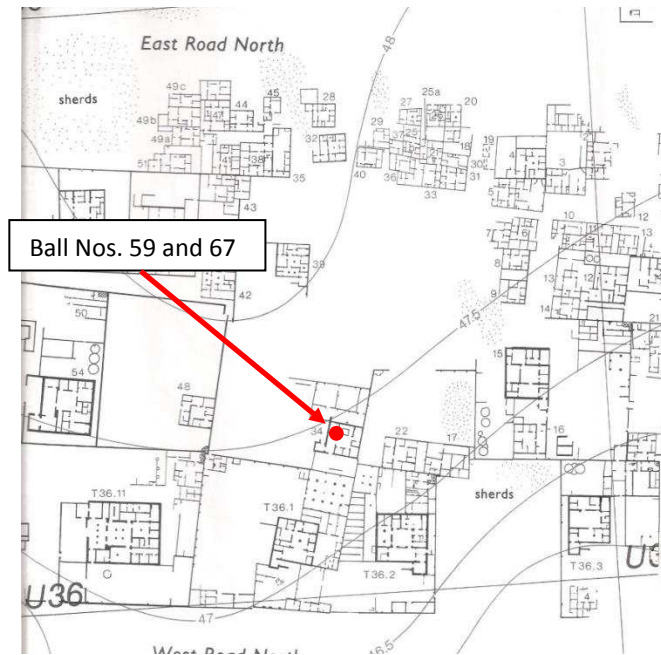


Figure 32: Grid Square U36 (Kemp and Garfi 1993: Sheet 7)

Grid Square V37

There are no details for house V37.3 (Figure 33), other than a note that the building was two houses, rather than one. Artefacts found include a fish hook, a drill, a wooden kohl pot, rings and pendants (Frankfort and Pendlebury 1972: 12, 97). Again, a ball (no. 56) is not mentioned, but it is noted on the Amarna Small Finds Database.



Figure 33: Grid Square V36 (Kemp and Garfi 1993: Sheet 7)

South Suburb:

Grid Square K51

In the entrance of house K51.1 (Figure 34) the remains of an infant in a pot with beads was buried at the entrance, and throughout the house at floor level a variety of other objects were discovered, including a clay ball, but where they were located in the house is not recorded (Peet et al. 1923: 17). There is no explicit connection made between the burial and the clay ball, thus we should not assume a relationship without further evidence.

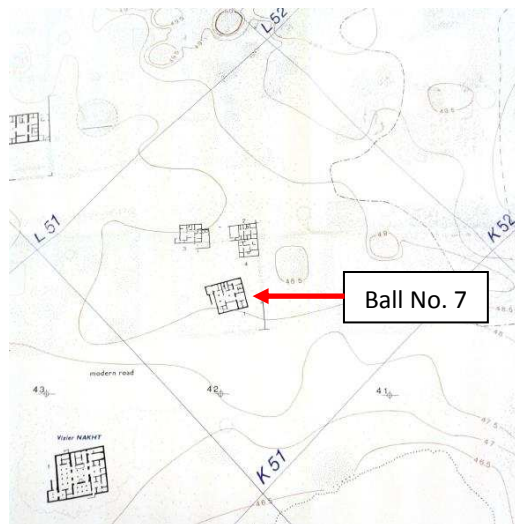


Figure 34: Grid Square K51 (Kemp and Garfi 1993: Sheet 8)

Amarna South Tombs

The Amarna South Tombs is the largest desert cemetery for the non-elite of Amarna, and is situated in a *wadi* to the east of the city. The pit burials often contain individuals who had been wrapped in textiles and matting, and buried in an extended position with no grave goods. From the middle site, ball no. 124 was found in the burial of infant 210 (Ind. 388) (Kemp 2013: 2, 8, 13).

Workmen's Village

The Workmen's Village at Amarna was built during the reign of Akhenaten, and was used for 15 years by his successors. It was deserted by the end of Tutankhamun's reign (Kemp 2007: 10; Kemp and Stevens 2010: 187; Peet et al. 1923: 67). The village was purpose built for the skilled labourers working on the nobles' rock-cut tombs in the upper desert, much like the inhabitants of Deir el-Medina (Peet et al. 1923: 51; Kemp 1987: 43-4). In 1921 and 1922 the Egypt Exploration Society conducted excavations of half of the village and published an account of their expedition in *City of Akhenaten II* (Frankfort and Pendlebury 1972; Kemp 1977: 24). The village, in general, has been preserved to a much greater level than the rest of Amarna, because its valley location makes it susceptible to "sanding-up", thus leaving the site protected (Kemp 1979: 51).

The site itself was built on a plateau inside a valley (Kemp 1977: 24) and was a central point for the vicinity's roadways, particularly as the site was half way between the northern and southern cemetery sites (Kemp and Stevens 2010: 504). Due to its isolated location, however, the land was unsuitable for cultivation,⁵² and the salt content of the desert would have made any water acquired from wells unsuitable for drinking,⁵³ with drinking water having to be brought from as far away as the Nile (Kemp and Stevens 2010: 504; Peet et al. 1923: 51).

The layout of the village itself is very organised and uniform, with a surrounding square wall, with streets that run equally in a south to north direction, with cross roads interconnecting them (Kemp 2008: 12; Peet et al. 1923: 53-4). The layers of stratigraphy are thin due to the lack of occupation of the site since its abandonment, and this has led to the ancient level being much closer to the surface than at other archaeological sites in

⁵² Although animal-raising did prove successful with numerous animal pens being discovered, as well as a detailed bone record (Kemp 1987: 36-7, 40).

⁵³ This well-water would have instead been used for watering animals and vegetation, or used in physical tasks such as washing or mixing with clay (Kemp and Stevens 2010: 504).

Egypt. For this reason, the archaeology is prone to damage, particularly from looting (Kemp and Stevens 2010: 187). Although the original excavations were well-recorded for the time, the state of the site itself means that key details are missing, both artefactual and architectural, and does not allow for a thorough understanding of the site.

All the houses are approximately the same size and style, with four or five rooms each with a staircase to a useable roof, with one exception, which may have belonged to the foreman, or a chief clerk (Kemp 2008: 12; Peet et al. 1923: 53-4). The bedrooms are termed so hesitantly, as the real purpose of the rooms is not fully understood, but the rooms are thought to have been used as sleeping quarters, because in the main city there is “a slight recess filled by a low platform on which the bed stood” (Peet et al. 1923: 51; Spence 2004: 127).

These recesses, however, are only found in medium and large houses (Spence 2010: 290), but do not exist in the Workmen’s Village. Yet, there is a “regular raised platform”, or the floor was made of better quality on one side of the room (Peet et al. 1923: 51). Shelf supports are found and may have supported a wooden bed, beneath which could have provided storage space for household items. Raised platforms like these were found at Deir el-Medina (Bruyere 1937: 62; Romano 1990: 26-7) and there has been much discussion regarding whether they served as a bed or not,⁵⁴ but most scholars now agree that these platforms are likely to have been altars (Bruyere 1937: 64; Brunner-Traut 1955: 30; Badawy 1968: 65; Bierbrier 1982: 69; Robins 1996: 29; Robins 1996: 75-6; Koltsida 2006: 165-174; Koltsida 2007: 24; Stevens 2006: 234; Weiss 2009: 197).

An alternate purpose of such rooms could have been for storage due to the lack of natural light, unplastered walls, and existence of shelving and in one or two homes there is

⁵⁴ Alternative suggestions for these platforms are that they are seating (Hobson 1987: 117), or that they served the ‘female sphere’ in the form of a birthing bed (Bruyere 1937; Brunner-Traut 1955: 30; Dunand and Zivie-Coche 2006; Meskell 1998: 223). For a discussion on these possibilities see Weiss (2009: 196-200) and Freidman (1994: 97-99).

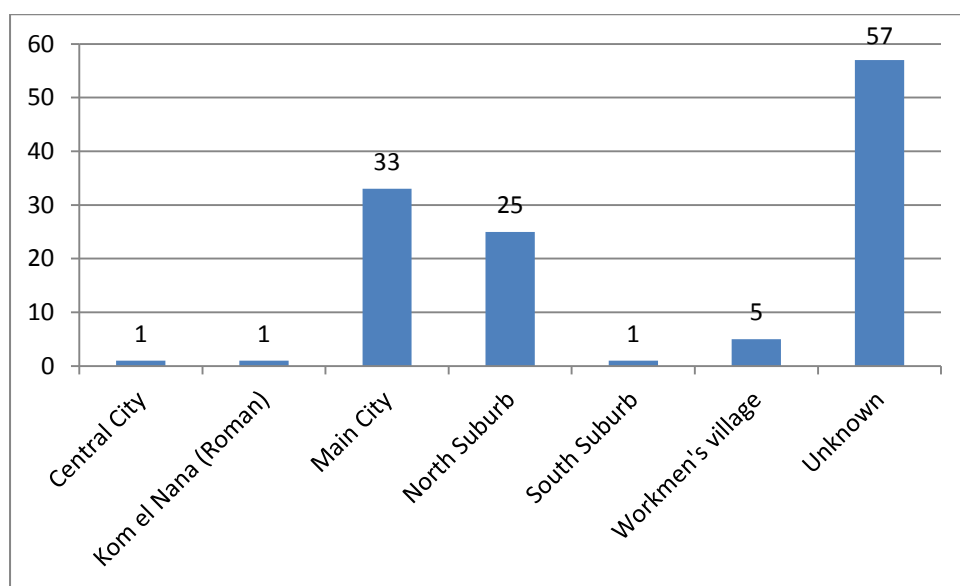
evidence of pot-holes or jar-stands. Throughout the village, there is also a distinct lack of clear evidence for storage space, further supporting that these “bedrooms” could have in fact been storage spaces (Peet et al. 1923: 63). These are present in No. 9 Long Wall Street, where three clay balls (ball nos. 39-41) were found in the ‘bedroom’. Perhaps, the presence of lamp niches in the walls of such rooms fit more appropriately with bedroom use, rather than storage, but Peet believes that if the shelves were used as a storage space, it is more likely that they would have been used for storing items such as household goods and doubled up as a bedroom, rather than storing items such as grain (Peet et al. 1923: 63).

Bedrooms are extremely rare to find in small houses, and can only be found in 3 per cent of the large houses, and consequently have been considered to be a mark of social status, although the precise reason for this is unknown. It may have been a retreat for the owner of the house, to allow him/her some time alone, or it may have been a statement that the owner had enough space in his/her home to dedicate one room exclusively to sleeping (Crocker 1985: 61). Thus, this could discount Arnst’s theory that the discovery of balls in bedrooms equated to their use as protection whilst a person slept. The lack of rooms specifically dedicated to sleeping means that the clay balls may have served another function due to the multiple uses of the room itself.

Amarna Conclusion

Graph 14 shows the distribution of clay balls throughout the different areas of the city of Amarna, making it very clear that the principal findspots for the clay balls tend to be in the city and the north suburb. The discovery of the majority of the clay balls in the main city of Amarna, combined with the fact that to date no clay balls have been found in a domestic context at any other site in Egypt, could suggest that there may have been a direct link between the Aten cult (prominent in Amarna) and the use of clay balls, particularly with

the presence of Aten's name on ball 37. Yet, as stated before, the absence of evidence of clay balls existing at other sites does not prove this theory and the continued occupation of other sites may have prevented the preservation of other clay balls. The concentration of clay balls in the main city and north suburb may have been caused by a higher concentration of people living in these areas. However, further analysis of the size of the houses could give a clearer indication of the type of people living there and thus could reflect a pattern in the users of the clay balls.



Graph 14: Distribution of clay balls throughout the different areas of the city of Amarna

Unlike the Workmen's Village where most of the houses were of the same size, the houses of the other areas of the city, such as the North Suburb, range in size, making it more complex to rate the wealth and status of the owners (Kemp 1977: 128). The houses of the main city and north suburb of Amarna from which the clay balls were excavated vary in size, as can be seen in the images above. Large houses like the "Weihnachtschaus"⁵⁵ (Q46.1; Figure 35) consist of great complexes of rooms and courtyards and must have been owned by someone with substantial wealth. The sculptor's workshop (Figure 36) contains rooms

⁵⁵ The reason for the naming of this house is not explained in the excavation reports.

and a central large area of space, not present in many of the other houses, probably a workplace for the sculptor's trade. Many of the houses, however, are similar in size to Q45, 1 (Figure 37), with only approximately a dozen rooms, much fewer than the larger houses. These would have belonged to people of lower status than those who lived in larger dwellings, and the discovery of clay balls through this range of different house sizes indicates that whatever the clay balls were originally used for, they were used by people in a range of social statuses.

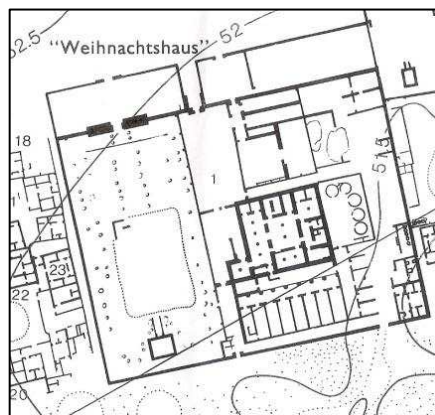


Figure 35: Q46.1 "Weihnachthaus" (Kemp and Garfi 1993)

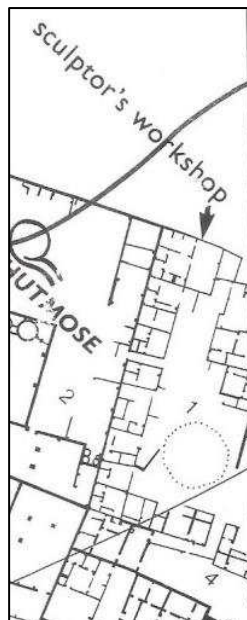


Figure 36: Sculptor's workshop (Kemp and Garfi 1993)

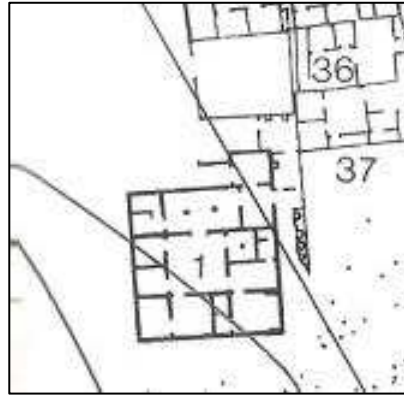


Figure 37: A typical size house, Q45.1 (Kemp and Garfi 1993)

Within the houses themselves there is no architectural element (for example a shrine) which consistently occurs to provide a possible indication of what the clay balls' function may have been. It is significant that the clay balls found in one of the houses equipped with an oven is not fired to any degree. This reinforces the theory that the clay balls were meant to be unfired, but the reason for this remains debateable (discussed further in chapter 5). The only other frequent occurrence is the presence of clay balls in 'bedrooms' in some of the Amarna houses.

There are 12 clay balls found in 'bedrooms', but the certainty of the identification of these rooms is not supported by any strong archaeological evidence. If the bedrooms could be positively identified, it would draw support to Arnst's theory that these clay balls may have been used under beds to protect the sleeper during the night (2006: 17). The discovery of a number of clay balls in other rooms of houses could be explained in a number of ways, but the most likely reason, especially in the smaller homes, is that some rooms were used for day-to-day tasks, as well as sleeping quarters.

The artefacts found with the clay balls are generally household items, and do not necessarily give an indication of what the clay balls' use may have been, nor is only one type of item found with every example of clay ball. Table 6 (below) is a collection of all the

known artefacts found with the clay balls at Amarna, which have been categorised to gain a better understanding of what type of items have been found:

Type of Artefact	Amount Found	Type of Artefact	Amount Found
Jewellery	223	Amulet	9
Beads	121	Plaque	7
Egyptian Pottery	97	Bone	7
Tools	38	Toilet	6
Metal Fragments	38	Architectural Element	6
Moulds (unspecified)	22	Textiles	5
Inlays	17	Faience Fragment	4
Miscellaneous	17	Paint	4
Seal/Stamp	15	Grooved Pottery Disc	3
Ostrakon/ Jar Labels	15	Faience Vessel	3
Figurine (Animal)	13	Faience Fruit	3
Scarab	12	Wood	3
Figurine	11	Glass Vessel	2
Stone Vessels	11	Glass Fragment	2
Foreign Pottery	10	Faience Ball/Disk	2
Stonework Fragment	10		

Table 6: Artefacts found with the Clay Balls

The presence of jewellery with clay balls is particularly prevalent alongside beads, pottery and tools, all of which can be considered everyday items. The low number of amulets and scarabs could have been removed by owners as they moved away from the site, or could suggest that there is no correlation with religious or magical material, and that perhaps the balls served a more mundane function, such as a papyrus weight as suggested by Parkinson and Quirke (1995: 35).

Until 2013 Amarna excavations have only revealed clay balls from domestic contexts, but recent archaeological excavations of the South Tombs cemetery have uncovered two clay balls buried with a child (Stevens 2013), as mentioned. Not only is this unusual in the sense that it is a clay ball found in a mortuary setting at Amarna, but, in addition, this is the only example which provides direct evidence of a clay ball's connection with a child. This may give some credence to the theory presented by Blackman (1925) that the artefacts were

used as an offering to give thanks for the life of a child (discussed further in chapter 6). Yet, there is no further evidence to support this idea, particularly since this is an anomaly, whereas other burials with the balls seem to have been those of adults.

3.6.2. Kom el-Nana

The site of Kom el-Nana, near to the site of Amarna, was designated as a 'Roman camp' (Frankfort and Pendlebury 1972: Pl. I), but dating is difficult. There was a large concentration of New Kingdom sherds found in the north-east part of the site, in addition to the creation of the site being dated to the early Amarna period (Kemp 1977: 26-7; Kemp 1995b: 8-9). Sherds from after the Pharaonic period are found in both the northern and central parts of the site, but the excavations of stone buildings, similar to those found at Akhenaten, prove conclusively that the site primarily belonged to the 18th Dynasty (Kemp 1977: 32-33). Thus, it is difficult to support the Roman date given to ball 69, particularly since no context is known for the ball, preventing further research from being conducted on this issue. The ball itself is different from those found at the neighbouring site of Amarna, because it is both inscribed and impressed with an abstract design. The differentiation from the Amarna clay balls, and the lack of information regarding the design, neither confirms that it originated from the Roman era, nor does it provide any connection with New Kingdom examples.

3.6.3. Zawiyet el-Aryan

The site of Zawiyet el-Aryan's 3rd Dynasty unfinished pyramid (Malek 2003: 87), along with a large cemetery, was excavated in 1911 by Reisner and Fisher, but was not published until 1978 when Dunham went through the hand-written notes, drawings and photographs from the excavations. The cemetery's graves are dated to a variety of periods due to the

constant reuse, which has made it difficult to interpret them, and, as a consequence, only 72 of 300 of the graves were published (Dunham 1978: IX).

One of the published examples, a New Kingdom rock-cut tomb (burial Z52) with a mud-lined shaft and sunken brick chamber (Figure 38), contained four clay balls (nos. 118, 119, 120, 121). Little remains of the burial itself. Only a few leg bones were recorded and were orientated East-West. Figure 39 shows the plan of the burial with the finds in situ; many of the artefacts are different forms of pottery, including bowls, vases, jars, cups and pots. Interestingly, there are a few instances of vessels included which are created from mud, rather than fired clay, perhaps demonstrating that model vessels were sufficient for the afterlife. The mud balls themselves are designated as “Not located” and “Not illustrated”; however, three appear to be recorded on the plan in the South-East corner of the burial (Figure 39; Dunham 1978: 39-41).⁵⁶ One ball is spherical on the plan (Dunham no. 16), but two are displayed as having a teardrop shape (Dunham nos. 21 and 22). This may be an error either in the drawing of the artefact, or an error with the placement of the plan. As a consequence, particular attention will not be paid to the exact location of the balls within the tomb to avoid any inaccuracies.



Figure 38: Rock-cut tomb, burial Z52 (Dunham 1978: 39)

⁵⁶ Although nos. 21 and 22 are not shown in a spherical form like no. 16 - perhaps this is an error?

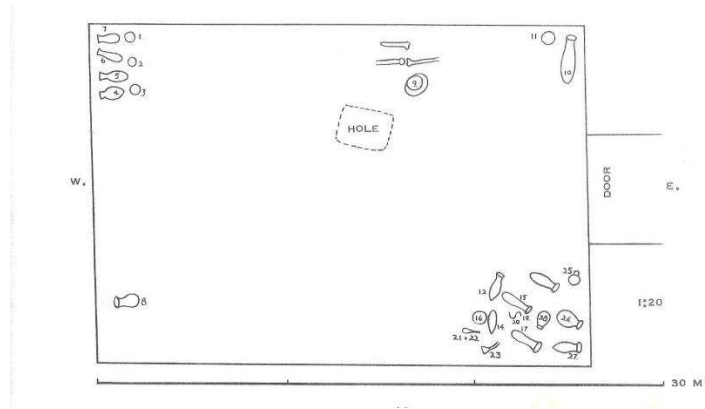


Figure 39: Plan of burial Z52 (Dunham 1978: 39, Fig. 14)

The most interesting find excavated from this burial was a fragment of black stone (Figure 40) which has the inscriptions “... Sokar ... life in the house of Ptah to the Ka of” and “... the sem-priest and high priest of Ptah, Pahemnetjer” (Dunham 1978: 41).⁵⁷ This inscription provides crucial evidence for understanding the clay balls. In this instance, we are provided with a name and title of the deceased, helping us to understand what category of people may have used clay balls in their burial assemblages. The high status of Pahemnetjer does not automatically exclude people of lower status from using clay balls, but it does confirm that those of a high status would have certainly used them. It also corroborates that such artefacts were used by adults, rather than just children (as previously mentioned, an example of a clay ball is found in a child’s burial at Amarna), meaning that the use of all clay balls cannot be explained with the theory of an age-based rite of passage ritual, such as the offerings made by the modern fellahin of Egypt (Blackman 1925; 1927: 84-87, 290); this could prove as an indication of the clay balls multi-functionality.

⁵⁷ No transliteration is provided.



Figure 40: Fragment of black stone (Dunham 1978: 39, Fig. 14)

3.6.4. Lahun

Lahun, more commonly known as a Middle Kingdom settlement site, was also an important burial site from the Early Dynastic period to the late Old Kingdom, and later returned as a popular cemetery site in the 1st millennium B.C., when many of the older burials were reused (Quirke 2005: 3-6, 40, 121). During the Middle Kingdom the 12th Dynasty king Senusret II was buried under the Lahun pyramid, which would eventually lead to the king's cult, and the rituals and festivals would have taken place at the town (Quirke 2005: 7, 28). Archaeologically, Lahun is an important settlement site due to the large proportion of daily life artefacts found by Petrie (David 2000: 133). Clay ball no. 7 has been dated to the 20th Dynasty, but further details as to why this conclusion has been made are not available, and I have been unable to find details of Burial A (where the ball was found) in any publication.⁵⁸ This ball contained hair and, although the dating could be accurate, it is worth considering that perhaps the ball may have originated from an earlier Old Kingdom burial through the reuse of tombs, because clay balls from the Old Kingdom are found in burials and do not contain hair whereas clay balls containing hair has so far been limited to domestic sites from 18th Dynasty Amarna (Group F.ii). If the dating of the Lahun balls is

⁵⁸ It is the museum record which indicates that this clay ball was found in Burial A.

correct, it would seem that hair clay balls (Group F) are only found in the New Kingdom. Two other clay balls (ball no. 122 and 123) were also found at the site of Lahun, but no further information is available for these.

3.6.5. Beth Shan

The site of Beth Shan is situated in modern-day Israel,⁵⁹ and has been included in this thesis since it was occupied by Egypt during the New Kingdom. The balls found here both have Egyptian hieroglyphic seal stamps reportedly reading *imnyt*, translated as 'daily offering' on them. Two Egyptian clay balls have been found at this site (ball nos. 116 and 117): in one of the rooms south of the courtyard of the Egyptian temple, locus 1343, a clay ball was found with storage containers and other objects.⁶⁰ Another clay ball was also found in a different courtyard room, locus 1345, but no further information was provided about its context. There is no further information on these proveniences; however, as some field notes were missing (James 1966: 16-17).

Archaeologically, the Egyptian influence in Beth Shan at this time was recorded through artefacts found on the same level as the clay balls. Level VI provides substantial evidence to suggest occupation, including scarabs possessing the names of the kings Tuthmosis II and Ramesses II (James 1966: 17). The pottery finds, however, are not as conclusive as they usually are on an archaeological site because the Egyptian coarseware is remarkably similar to the Palestinian coarseware. Further to this, if the coarseware is Egyptian, there is nothing to indicate whether this pottery was made locally or imported from Egypt itself (James 1966: 27).

⁵⁹ 400 kilometres from the ancient Egyptian border (McGovern, Fleming and Swann 1993: 2).

⁶⁰ James does not specify what these objects are, only that they are 'a typical assemblage of Level VI material' (1966: 16-17).

Other documentation available indicates the Egyptian presence in the area at the time. In the list of Tuthmosis III's conquests, Beth Shan is mentioned (Simons 1937: 27-44). At Beth Shan itself, stelae are found with the names of the kings Ramesses II and Seti I, in addition to building stones of Ramesses III (James 1966: 4; Rowe 1940: 24-30, 33-36).

It was during the reign of the two former kings that Egypt had the strongest hold over Beth Shan, and although Egypt had little cultural influence over an advanced culture like Beth Shan, the ratio of Egyptian pottery compared to Palestinian pottery is higher than in other periods (McGovern, Fleming and Swan 1993: 2). Despite the undoubtable evidence of Egyptian occupation, the archaeological record reveals that this did not lead to a displacement of the local people.

The record shows that perhaps as many as 1500 of the 2000 people of the population were in fact Canaanite. The other 500 are likely to have primarily consisted of Egyptian settlers, many of whom would have been military or administrative officers placed in charge of the garrison, as well as craftsmen who had travelled to find work (McGovern, Fleming and Swan 1993: 2). McGovern, Fleming and Swan argue that it was probably more profitable to have Egyptian craftsmen living in Beth Shan to make Egyptian merchandise for the area, rather than importing it from Egypt itself (1993: 3).

Under Egyptian occupation Beth Shan acted as a "military and administrative center" (James 1966: 149) and the construction of Level VI shows that the town was built around the main temple (James 1966: 134). An Egyptian inscription was found at Beth Shan which indicated an Egyptian military presence during the 8th year of Ramesses III's reign. An inscription lists the titles of Rameses Weser Kephesh: "overseer of soldiers, commander of the bowmen of the Lord of the Two Lands, royal scribe and great steward" (James 1966: 149). This man's titles show that he was in charge of professional soldiers, and although full details of the construction of the Egyptian military hierarchy are unknown to us, he does

appear to have been a high ranking commander (James 1966: 174). James' dating is further supported by stelae found in Level V with the names of the pharaohs Seti I and Ramesses II (James 1966: 150).

Locus 1201, a room to the east of the temple, contained a clay oven and ball no. 117. The clay ball was poorly fired with undecipherable seal impressions on the outside. The presence of the clay oven and the state of the clay of the balls may suggest that the oven was used to fire the clay balls, albeit unsuccessfully (James 1966: 18, Fig. 105). This should be considered when analysing the significance of the unfired nature of the other clay balls. Perhaps it was not essential that the clay balls were left unfired, however, this is the only occasion where any firing of a clay ball has been recorded.

It is possible that the seal impressions on ball no. 117 are similar to those on another clay ball (ball no. 116) found east of the temple (locus 1196), which was impressed with *imnyt* 'daily offering'. Other than a note that jars containing sesame were found along the north wall of this room, there are no details available due to very little being recorded about them (James 1966: 17-18).

The faience industry at Beth Shan eventually began to conform to Egyptian practices and to achieve this, Egyptian craftsmen must have been used at the least to prepare the raw materials (McGovern, Fleming and Swann 1993: 23). This could also apply to the pottery industry. However, without close examination of the clay balls from this site it is not prudent to assume that these clay balls had been made by Egyptians. The seal impressions on the balls, although epigraphically Egyptian in origin, may still have been used by a local person, in order to create the desired product. Indeed, the artefact itself would not have needed any special skills to produce, as the clay could easily have been made into a ball by rolling it between two hands.

However, if a native to Beth Shan made the clay ball, it is almost impossible to prove that the clay balls would have served the same function as those found in Egypt. Additionally, it is difficult to estimate to what degree a design would be interpreted or altered in order to be understood and accepted by another culture. Alternatively, the clay ball tradition could have been brought over from Egypt with the Egyptian settlers at the garrison. Some Egyptian faience pendants, remarkably similar to those found at Amarna, were found in a later provenience at Beth Shan, suggesting that these had been kept as heirlooms for one hundred years (McGovern, Fleming and Swann 1993: 9). Hence, it may be prudent to proceed with caution when comparing ball nos. 116 and 117 from Beth Shan with those found in Egypt.

3.7. Conclusion

The presence of clay balls in a range of different house sizes at Amarna proves that they were used regardless of a person's status or position. The evidence available from burials, however, could suggest that the clay balls were used by the elite, since the earlier finds have been found in the tombs of persons with wealth, particularly those from the 3rd dynasty, as exhibited by their presence in large burial structures such as mastabas. On the other hand, this could be the result of preservation, as the wealthy could afford to construct structures to contain their burial and thus preserve the objects within them, whereas the poor at Lahun would often be buried in pits or simple shaft tombs (Grajetzki 2003: 71), allowing objects like unfired clay balls to disintegrate. Further to this, the higher density of clay balls found in elite tombs, rather than poorer tombs, may be the result of past archaeologists' particular interest in elite burials, which held the possibility of finding interesting artefacts and a preserved body, as opposed to limited grave goods and a

smaller possibility of an intact burial. The recent discovery of a clay ball in an ordinary grave of a child at the South Tombs Cemetery of Amarna reinforces this.

Table 7 shows the sites where decorated balls were found and how this corresponds to the various types of decoration. There does not seem to be any clear evidence to suggest any correlation. Seal stamps do appear to be a dominant presence, but this data is skewed due to the high percentage of clay balls found in Amarna, of which a significant proportion have seal impressions. From the rest of the data available it can be seen that there is a range of different decorations used, and, although some sites appear to favour certain types of decoration, the numbers are small and not statistically viable. However, since no pattern is apparent, it seems as if the objects could be decorated variously, likely serving different functions and may even be specific to the user.

Locations	Ab	Am	BK	BS	De	EE	La	KEN	Na	Re	ZEA	Un
Cylinder seal	1											
Holed		5					1					
Inscribed	3		1				1			2		
Not decorated		6							1			
Painted									1			
Seal stamp	3	34		2								3
Unknown	1	75			1		2				4	2
White covering		4				4						4

Key

Ab - Abydos

La - Lahun

EE - El-Ebadiyeh

KEN - Kom el-Nana

Am - Amarna

Na - Naqada

BK - Beit Khallaf

Re - Regaqnah

BS - Beth Shan

ZEA - Zawiyet el-Aryan

De - Dendera

Un - Unknown

The Amarna clay balls that are devoid of decoration contained human hair, and may have served an entirely different function from those which are decorated. It is an important reminder that these clay balls should not be viewed as one type of artefact with only one function. Hair clay balls (Group F) are found in tombs at Lahun and in homes at Amarna. It is possible that the clay balls' function may have permitted these to be used in either context, but there is no conclusive evidence to prove this. Other organic materials, such as linen or papyrus are only found in early graves, but perhaps these are early examples of the clay balls' use.

Thus, the decoration, although important in understanding the clay balls, is not the defining factor in comprehending their use. Proveniences and contexts, while vague, can imply their importance to us; the discovery of clay balls from both domestic and mortuary contexts indicates that these artefacts were used in Egyptian daily life but were also significant enough to be taken to the afterlife with them. Their use in each context may have differed, but their presence in each highlights a widespread custom, as do the geographical spread and the vast chronological range of their function.

CHAPTER 4 - CLAY BALLS AS PART OF AN EXECRATION RITUAL

4.1. Introduction

Execration rituals and spells were used in both state and popular religion, but were not necessarily indicative of daily religious practice indicated by a limited number of existing examples (Baines 1987: 86). Execration rituals were used to destroy evil; wax effigies would have been made in the image of an enemy and then placed in a fire to be ritually burnt and the lack of ashes made it appear that all the evil had been destroyed (P. Bremner-Rhind, col. 23/6-10 and 26/2-6; Eschweiler 1994; Faulkner 1937: 168, 172; Faulkner 1938: 42; Frazer 1923: 67; Kousoulis 2001: 32). The low number of clay balls found could be explained with the deliberate destruction of the artefacts as part of an execration ritual.

This chapter will examine the textual and monumental evidence that directly refer to the use of clay balls in execration rituals and critically assesses whether these references indicate the function of the artefacts. The evidence highlights the substantial evidence that the clay balls served an execration or amuletic function. In particular this section will focus on the 'striking of the ball' ritual which appears 19 times on temple walls and are dated to the New Kingdom (1550-1069 BC) and the Graeco-Roman period (332 BC - AD 395). The scenes depict the pharaoh wielding a bat or stick ready to strike a ball that represents the evil eye of Apophis in order to defend the sun god Ra. An alternative ritual dated to 25th Dynasty, portrays Pharaoh Taharqa defending the tomb mound of Osiris from all cardinal directions by throwing clay balls. Further to this, a number of spells bearing the theme of execration mention clay balls, including examples from the Harris and Brooklyn Papyri. These are discussed to determine whether they provide evidence for the idea that the clay balls may have been used by lay people as an execration ritual to protect against evil forces, including crocodiles and snakes, and then used in the later royal rituals.

The amuletic seal designs found on clay balls are studied to fully access their symbolism. There is the possibility that these symbols may have a connection to the monumental inscriptions and spells mentioned above. Furthermore, the concept of ancient Egyptian offerings will be covered to determine whether the clay balls may have been made as offerings, such as a symbolic offering of an oryx, which were associated with the entity Apophis, who fought the sun god Re during his nightly progression through the underworld.

To ascertain whether a royal state ritual could have been adopted from the domestic popular religion (or vice versa) to explain the discovery of clay balls within homes, we must first define the difference between the two:

State religion focused on the maintenance of *maat*, the ancient Egyptian concept of order, which when sustained ensured the rising of the sun each day. The ancient Egyptians believed that every night when the sun set, it would embark on a great journey fraught with dangers, and then it was reborn each day. Rituals were required to uphold this sense of stability, just as social order needed action to ensure its preservation (Assman 1989: 63). Our knowledge of this cosmology comes from the texts and images found on temple walls and in tombs, which have consequently been grouped together in 'books', such as the Pyramid Texts, the Coffin Texts, and the Book of the Dead (Lesko 1991: 88).

Within the state religion the king plays a significant role, not only is he the chief priest responsible for performing certain rituals and making offerings to the gods, but he was also considered as a god himself (Edgerton 1947: 154; Levi 1965: 1-8; Spalinger 1998: 244; te Velde 1971: 81). Indeed, a number of Pharaohs became deities upon their death and were given offerings for an extensive period of time. Priests would have been responsible for making offerings when the king was not available because of his other duties, and although there were a relatively large number of people in religious office, the roles were much

sought after because of the status associated with them and the economic importance to the temples. As a consequence, it is highly likely that the oral knowledge and religious performances would have been relatively inaccessible to maintain the importance of the roles. This would have resulted in religious knowledge only being revealed to particular members of society, most of whom would have been male (Baines 1990: 6, 7; Spalinger 1998: 251).

Temples had an important economic function, along with serving the religious needs of the state (Spalinger 1998: 241); they were, in some cases, offered large areas of cultivation land, which would be worked by the temple's own labourers and members of the population would receive a share of the crops. The crops would then be stored in the temple's granaries. The temples also participated in animal husbandry, fishing, fowling, vineyard and beehives. Flax fields were cultivated and processed into textiles on a large scale (Kemp 1972: 658-9; Roth 1987: 116), and textiles were produced on a large scale in the temples in the Old Kingdom and onwards (Tyldesley 1995: 131).

On a similar thread, the written material would have been limited to the number of literate people who would have been able to read it. Up until the end of the New Kingdom the treatise and hymns would have been in some inaccessible areas to the temple. Textual evidence in tombs would have restricted access due to the closure of the tomb once the deceased had been buried. By limiting this knowledge it not only maintained the hierarchical social order, but in some cases protected *maat* by preventing evil forces gaining sacred knowledge (Baines 1990: 6, 7, 12).

Access to the temples and the rituals connected to them may have been restricted for common people, but specific areas were designated for the populace and festivals and processions may have been conducted to involve the people in the religion (Baines 1990: 6; Baines and Froot 2011: 2, 4; Bryan 1992: 73; Teeter 1993) and to encourage them to

contribute to the state religion. In the temple at Karnak, Ramesses II added the Temple of the Hearing Ear to the eastern shrine, allowing the populace to apply to Amun-Ra through the king (Barguet 1962: 223-42; Brand 2007: 59). However, evidence from the Deir el-Medina "absentee lists" shows that more time off was permitted for local religious festivals, than those at the larger state events at Karnak, suggesting that more importance was placed on the former by the common ancient Egyptian (Helck 1964; Spalinger 1998: 256).

Temple offerings were sometimes defined by the characteristics of the god, for instance corn mummies were given to Osiris, the god of fertility (Centrone 2006: 33; Raven 1982: 7, 28; Tooley 1996: 167), and phallic offerings to Hathor, the goddess of sexuality (Pinch 1993: 244). Yet, whatever the offering, the officials working at the temples would gather and redistribute the donations made. Over time this became an institutional practice (Kousoulis and Morenz 2007: 180). Votive offerings were certainly placed by a number of people at the temples, this can be seen at the temple of Hathor at Deir el-Bahri, which has a vast number of votive offerings dedicated to the goddess (Baines 1991: 180; Pinch 1993), including hair offerings which may have been left by illiterate worshippers (Tassie 1996: 62).

Votive offerings placed at the temples across the country follow a stream of conformity with little or no local variations. Although this provides us with further insight into nationally understood symbolisms, it does inhibit our understanding of local theological themes and ideas (Bussman 2011: 750; cf. Dreyer 1986: 59-97). Examples of individual offerings at temples are rare and are mainly dated to the 18th Dynasty before Akhenaten's ascension to the throne (Baines 1991: 180).

In contrast to the state religion, popular religion revolved around everyday needs and concerns, such as fertility, childbirth, and disease, and was regularly practised by the

common people. The deities were believed to interact with the people, having a direct affect on their lives (Baines and Froot 2011: 11). Shrines and altars were found in villages and, in some cases, houses, where images of domestic gods can be found on many examples of paraphernalia (Badawy 1968: 65; Bierbrier 1982: 69; Brunner-Traut 1955: 30; Bruyere 1939: 61; Koltsida 2007: 24; Robins 1996: 75-6; Stevens 2007: 234; Weiss 2009: 197, 202). Houses in Amarna, in particular had a significant number of domestic shrines and altars (Kemp, Buckland and Stevens 2010: 507; Stevens 2006: 219-34), as well as a surprising number of images of traditional deities (Kemp 1995: 30; Kemp, Buckland and Stevens 2010; Stevens 2006) which had been banned during the reign of Akhenaten (Hart 1999: 38). A few houses of officials had garden chapels which were dedicated to the religious cult of the royal family (Kemp 1995: 35).

Communal shrines have been found within Amarna and in the walled village (Bowman 1991; Kemp 1989: 283-5, 293), while mudbrick altars were located in houses. Steven's highlights the altars' potential importance as permanent constructions for use in domestic religious activity (2003: 145-9). Stone platforms, thought to be altars or shrines, have been found in houses of different sizes, and could indicate that its use in domestic religion applied to people of all social statuses. Nonetheless, the majority of houses do not possess a permanent altar of this form, but this does not rule out the possibility that these were used in the houses without permanent features (Stevens 2003: 161-2). Rooftop shrines like those documented at Karnak might have also existed (Spence 2004: 144-145; Stevens 2015: 82-83; Traunecker 1988: 85, Figs. 1-2). The deterioration of Amarna's second storeys and consequently the destruction of the roofs (Stevens 2015: 81), however make it impossible to determine whether Amarna was like Karnak. Similarly shrines could be found outdoors to allow worshippers to communicate directly with the god Aten without the assistance of the royal family (Ikram 1989; Stevens 2015: 82).

There is no evidence for direct communication with the domestic gods, but requests would be indirectly written to a god on ostraca or through their ancestors (Spalinger 1998: 255). The image of the god could also be inscribed and impressed on objects of daily use to invoke their protection and aid. Birthing wands depict a variety of apotropaic gods and beings, and could have been used to draw a protective circle around the mother in labour to invoke their protection during the dangers of childbirth (Roberson 2009: 436).

There is, of course, a crossover between the two forms of religion, and often we see the major state gods appearing in domestic spheres due to the characteristics they represent. For instance, Isis is often invoked in spells for her curative role, and Hathor, who was commonly associated with the domestic goddess Taweret, appears on artefacts related to fertility. Whereas, other divinities were invoked for problems in daily life, such as Bes as the guardian of woman in childbirth (Hart 1999: 59; Stevens 2003: 156; Wilkinson 2003: 102).

Whether the elite practised popular religion, in addition to the state religion, is impossible to say (Baines 1990: 1), but due to the restriction of access in the temples, they were probably not privy to the inner workings of the state religion (Baines 1990: 6; Spalinger 1998: 241). The lack of literacy⁶¹ would have limited them further, particularly the poorer communities, meaning their only understanding of the state religion would have been from images on the accessible walls of the temples, and any oral tradition which discussed the roles of these state gods.

We see in Akhenaten's reign in the 18th Dynasty there was a deviation from the normal polytheistic practices to one where only Aten was worshipped. Aten had been venerated since Tuthmosis I (Hart 1999: 38), but grew in importance during the reign of Amenhotep III (Aldred 1959: 32-33; Wilkinson 2003: 236). Furthermore, there were hymns dedicated to

⁶¹ The literacy of the ancient Egyptians is discussed in Chapter 6.

him, like other gods, but there was no mythology surrounding him. In this new religion access to the god could only be attained through the king himself (Silverman 1991: 82); some scholars believe that Akhenaten's reasoning for this revolutionary change in religion was to inhibit the power and wealth of the Amun temple and priests, which had reached its peak in the 18th Dynasty (Brand 2010: 7).

Akhenaten's suppression of the traditional ancient Egyptian beliefs was not altogether successful. A number of objects representing the traditional gods, including amulets, have been found at Amarna in outside the elite sectors of the city, which prove the contrary. It seems that even if the public could sacrifice in conventional temples, some at least were not prepared to go without the protection of traditional magic (Baines 1991: 189; Kemp 1987: 30-36; Peet and Wooley 1923: 65-66; Stevens 2009: 7). This new religion was cast aside at the onset of the reign of Tutankhamun, as marked by his restoration stela (Zarnoch and Sullivan 2008); the unpopularity of it and Aten's sole relationship with the king left the people alienated from the religion (Assman 1980: 29; Baines 1991: 191-2) and without the traditional magic and ritual that they depended on for protection.

4.2. Royal Execration Rituals

Execration rituals were used to exorcise an enemy (whether personal or political) as a form of protection and would often incorporate the destruction of an object as part of the process (Muhlestein 2008). These rituals often involve breaking or burning objects to destroy the evil that they represented, as frequently seen in Egyptian magic, and may be the reason for the low number of clay balls found. Thus, this section will explore the possibility that the balls were related to execration, drawing upon evidence found in texts and in monumental temple scenes.

As described previously the preservation of the balls is limited. One explanation for the relatively low number of clay balls in the archaeological record is that they were deliberately destroyed. This destruction may be related to an execration ritual which had the name of an evil force inscribed on the object and was then destroyed in an attempt to annihilate the evil force (Teeter 2011: 159; Shaw 2012: 46; Szpakowska 2008: 127). These rituals are similar to the 'breaking of the red pots' ritual where the crockery from a funeral feast is then deliberately smashed (Tyldesley 1994: 270; Ritner 1993: 146). This could originate from Utterance 224 in the Old Kingdom Pyramid Texts where "the breaking of red jars" is part of a spell to ward off a snake (Faulkner 1969: 58).⁶² However, this would not account for those balls left intact in tombs, unless they were placed there to be smashed at a later date by the deceased.

In one ritual, known as the 'striking of the ball' ritual (otherwise called the 'hitting of the ball' ritual) the text indicates that clay balls which represent the eye of the evil entity Apophis, were thrown and smashed by the Pharaoh wielding a bat (Borghouts 1973: 137). A similar version of this ritual can be found on the Edifice of Taharqa, where the Pharaoh is shown throwing clay balls in the direction of the four cardinal points (Decker 1992: 114-115; Kousoulis 2002: 158) and as there is no clear evidence to indicate that the balls were caught, it could suggest that they broke upon impact.

The 'striking of the ball ritual', and the similar ritual of the throwing of the clay balls could be examples of a state form of execration ritual, which may have been copied from earlier lay persons' rituals such as the Brooklyn papyrus (Late Period) to replicate the apotropaic elements of a domestic ritual (discussed later in Chapter 4). Furthermore, an ancient Egyptian magical spell from the Harris Papyrus (19th/20th Dynasty) refers to throwing clay eggs at a crocodile residing in the water (P.BM. 10042 [9] rt. 6, 10-7, 1; Borghouts 1978: 87)

⁶² "O [Osiris the King], here is this Eye [of Horus]; [take] it, that you may be strong and that he may fear you- break the red jars." (Utterance 224; Faulkner 1969: 58).

and in another text the balls are referred to as representing the corpses of Napata (enemies of Egypt) both represent interesting parallels to these rituals; if destruction was the purpose of the clay balls then this would explain why many did not survive.

4.2.1. The *skr hm3* ('striking of the ball') ritual

An explicit reference to a ritual requiring clay balls is a depiction of the Pharaoh using a *b3k*-stick to smash *hnm*-balls, as a way of symbolising his fight against the evil entity Apophis (Borghouts 1973: 137; Kousoulis 2002: 154). The 'striking of the ball' (*skr hm3*) ritual appears nineteen times on temple walls (Decker 1992: 114-115) such as the New Kingdom (1550-1069 BC) temples at Luxor and Deir el-Bahari, and in the Graeco-Roman Period (332BC-AD 395) temples at Edfu, Dendera and Philae (Kousoulis 2002: 153) (Table 8; Appendix 3 includes the texts from these scenes).

Site	Room	Wall	Register	King	Deities present	Ref/ Publication
Deir el-Bahari	Shrine of Hathor, hall	Eastern (right of entrance)	-	Tuthmosis III	Hathor	Naville 1901: 4, pl. 100
Luxor	Birth room (room no. xiii)	Northern	Second (fourth scene)	Amenophis III	Hathor	Gayet 1894: pl. 68. (no. 74), fig. 213.
Luxor	Chapel of Mut (room no. ii)	Western	Second	Amenophis III	Sakhmet	Unpublished
Luxor	Chapel of Mut (room no. ii)	Eastern	Second	Amenophis III	Sakhmet	Unpublished

Edfu	Exterior of Sanctuary	Western	-	Ptolemy VII	Hathor	Chassinat 1892: 62
Edfu	Interior of library	Northern	First	Ptolemy VII	Hathor	Chassinat 1928: 348
Edfu	Exterior of the naos	Western	Fourth	Ptolemy VII	Hathor	Chassinat 1930: 149-150
Edfu	Exterior of the naos	Eastern	Fourth	Ptolemy VII	Hathor	Chassinat 1930: 305-6
Edfu	Interior of the eastern enclosure wall	Eastern	Third	Ptolemy XI	Hathor	Chassinat 1931: 313; IX, pl. 151
Dendera	Court room xii	Eastern	Second	Unknown	Hathor	Chassinat and Daumas 1934-, VI: 193-194, pl. 301
Dendera	Chamber B, eastern crypt no. 2	Eastern	-	Unknown	Hathor and Harsomtus	Chassinat and Daumas 1952: 66, pl. 369.
Dendera	Chamber C, eastern crypt no. 2	Eastern	-	Unknown	Hathor and Ihy	Chassinat and Daumas 2005: 134, pl. 562, 563.
Dendera	Room F	Western	Third	-	-	Unpublished
Dendera	Hypostyle Room G	Eastern	Second	-	-	Unpublished
Dendera	Exterior of Western façade	-	Fourth	Augustus	Ihy, Hathor, and Horus of Behdet	Borghouts 1973: 133
Dendera	Exterior of the Eastern façade	-	Fourth	Augustus	Ihy, Hathor, and Harsomtus	Borghouts 1973: 133; Brugsh 1891: 1397-8

Dendera	Mammisi, Ennead Room	Eastern	Fourth	Augustus	Hathor and Horus the Behdetite	Daumas 1959: 175, 2-11, pl. 49.
Philae	Temple of Isis, exterior of Naos	Eastern	Second	Augustus	Sakhmet	Bénédite 1893: 81.
Philae	Temple of Hathor, outer hall, façade	Left	-	Augustus	Tefnut	Borghouts 1973: 136

Table 8: 'Striking of the ball' ritual depictions

These scenes depict the same basic image of the king, dressed in his ceremonial kilt, wearing either his double crown or *atef* crown, holding a bat in his right hand and what appears to be a ball in his left hand (Figure 33; Borghouts 1973: 125; Kousoulis 2002: 154). The ritual is performed before one specific deity, such as Hathor or Sekhmet (Borghouts 1973: 125), or a group of two or three deities (Borghouts 1973: 133; Kousoulis 2002: 154). This rite is frequently found on scenes where an enemy is overcome such as Apophis, a snake known as the "the evil one" and an adversary to the sun god Ra and to the dead. This entity attacks the sun god's barque on his journey from east to west, usually between the 7th and 12th hour of night, and sometimes directly attacked the god himself (CT 414;⁶³ CT 689; Faulkner 1938: 52-53; Kemboly 2010: 245, 248; Morenz 2004: 203, 247, 255, 259). Enemies could also include animals with negative connotations, such as tortoise⁶⁴ or oryx (Figure 41: bottom right hand corner), and to kill them was considered to be killing the evil that they represented (Breasted 1962: 384; Erman and Grapow 1971: 96; Houlihan 1996:

⁶³ 'to ward off Apophis from the boat of Re'.

⁶⁴ An example of the negative perception of tortoise can be found in the Book of the Dead, Chapter 161: "Re lives, the tortoise is dead, the corpse is interred and N's bones are reunited" (Faulkner 1998: 125).

48, 122). More explicitly, accompanying scenes depicted body parts of a defeated enemy being offered to the gods (Borghouts 1973: 137).

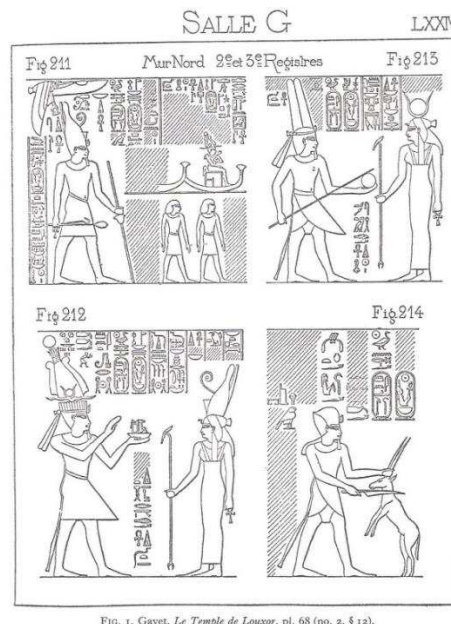


Figure 41: Temple of Luxor (Gayet 1894: Pl. LXXIV)

The deities who are the benefactors of this ritual vary, but do show some parallels to each other. The depictions of the striking of the ball ritual from the later periods refer to a singular goddess such as Tefnut. She had a number of attributes: moisture; the 'Eye of Ra'; and was also portrayed with a lioness' head, like Hathor and Sakhmet (Hart 1999: 23; Wilkinson 2003: 144, 183). Numerous goddesses were considered to be the Eye of Ra, particularly during the New Kingdom, including Tefnut, Hathor, Sekhmet, Mut, and Isis. In an Old Kingdom Pyramid Text, the Eye of Ra as stated to be the horns of Hathor (Pyramid Text 405; Faulkner 2007: 132; Jackson 1986: 128-129; Te Velde 1989: 398).

In the New Kingdom examples, Hathor or Sakhmet are singularly referred to as benefactors of this ritual, with one mention of an unidentified goddess, who bears the Hathor crown. In this instance, these goddesses may have been considered separate deities in their own right, but Hathor and Sekhmet were also closely associated with each other (Pinch 1982:

143), and sometimes combined as a singular deity representing the two opposing sides of behaviour, passive and aggressive (Hughes 1992: 15); a temple dedicated to this dual-goddess can be found at Kom el-Hisn (Kirby, Orel and Smith 1996: 25).

Hathor and Sekhmet were both considered to be the 'Eye of Ra', both had a leonine form, and both had two extremes to their personalities (Hart 1999: 23, 188-189; Wilkinson 2003: 140, 144, 181). Hathor represented the sympathetic aspect of the female deity, whereas Sekhmet represented the angry form of the goddess (Hughes 1992: 15). As an example of the latter, the goddesses were both mentioned as protagonists in different copies of the New Kingdom myth 'The Destruction of Mankind', when Hathor in a murderous rage turns into Sekhmet (Guilhou 2010: 2; Lichtheim 2006: 197-199). The goddesses are portrayed as being set on vengeance against humanity, resulting in them killing and eating humans with their rage, making them uncontrollable. To prevent more killing, the sun god Ra spiked human blood with beer, which calmed the goddess down once she drank it (Pritchard 1973: 3-5).

Hathor is named as a benefactor of the 'striking of the ball ritual' thirteen times⁶⁵ (but is depicted fourteen times), whereas Sekhmet is only named three times.⁶⁶ Sekhmet's close association with Hathor may have led her to be considered as an embodiment of the goddess, which could explain why Sekhmet is mentioned. Myśliwiec suggests that the reason for the focus on Hathor as benefactor could be a link to the feast of Hathor or the Feast of the Valley, which were important events on the western bank of Thebes (1985:

⁶⁵ Deir el-Bahari, Shrine of Hathor, eastern wall (right of entrance); Luxor, Birth Room (room no. xiii), northern wall, second register (fourth scene); Edfu, exterior of sanctuary, western wall; Edfu, interior of library, northern wall, first register; Edfu, exterior of the naos, western wall, fourth register; Edfu, exterior of naos, eastern wall, fourth register; Edfu, Interior of the eastern enclosure wall, eastern wall, third; Dendera, court room XII, eastern wall, second register; Dendera, chamber B, eastern crypt no. 2, eastern wall; Dendera, chamber C, eastern crypt no. 2, eastern wall; Dendera, exterior of western façade, fourth register; Dendera, exterior of the eastern façade, fourth register; Dendera, Mammisi, Ennead Room, eastern wall, fourth register.

⁶⁶ Luxor, Chapel of Mut (room no. ii), western wall, second register; Luxor, Chapel of Mut (room no. ii), eastern wall, second register; Philae, Temple of Isis, exterior of Naos, eastern wall, second register.

19). Although this may very well be correct, there is no supporting evidence in the text to confirm this connection.

Hathor can be portrayed in two different forms, as goddess of love, music and dance or as a fierce goddess who kills and then drinks her victim's blood like in the myth mentioned above (Hart 1999: 80-81, 188; Lichtheim 2006: 199; Wilkinson 2003: 181). Interestingly, in the text of the 'striking of the ball' ritual, she is portrayed in her peaceful aspect (Watterson 1976: 381-2), with titles such as 'Lady of Dendera', 'Lady of Writing', 'Mistress of the Library' and 'Eye of Re, beautiful of face, sweet of loveliness' (Borghouts 1973: 125, 126, 130).⁶⁷ This is rather surprising given the destructive nature of the later examples of the ritual, discussed below, as the aggressive aspect of her personality would be more appropriate when encountering an enemy such as Apophis. Perhaps this is due to the fact that in this type of scene it is the pharaoh who takes the defensive, protective role, and his actions to protect the sun god are a symbolic offering to the goddess.

However, there are multiple references to Hathor being accompanied by one or two other deities, including Horus the Behdetite, a form of Horus found at the site of Edfu (Bryan 1992: 105; Gardiner 1944: 23; Wilkinson 2003: 202), whose festival would involve execration rituals against a serpentine Apophis⁶⁸ (Chassinat 1930: 134/1-7; Kousoulis 2001: 35). Hathor was also associated with Harsomtus,⁶⁹ known as 'Horus the Uniter', who united the two parts of Egypt; Ihy (Borghouts 1973: 131- 134), as Horus' and Hathor's child, is depicted as a young child, still wearing the sidelock of youth. In some cases Ihy is named as the child of Sakhmet (Hart 1999: 98; Wilkinson 2003: 132), but this is likely to be due to the close connection between Hathor and Sakhmet.

⁶⁷ Edfu: Exterior of Sanctuary, western; Interior of library, northern; exterior of the naos, western; Interior of the east, enclosure wall, eastern.

⁶⁸ Execration rituals were also enacted against Sethian crocodiles and hippopotami (Chassinat et al 1930: 134/1-7; Kousoulis 2001: 35).

⁶⁹ At Edfu he is considered to be the child of Horus the Elder and Hathor. The name Harsomtus is used here, instead of Ihy, who is more commonly known to be the son of the two deities (Wilkinson 2003: 132, 202).

Harsomtut and Ihy are essentially the same deity and are directly associated with Hathor, as her son by Horus the Elder (Hart 1999: 98; Wilkinson 2003: 132, 202). The perception of Horus the Behdetite changed through time, originally an individual entity in his own right he eventually merged with Horus, the son of Osiris and Isis, and Horus the Elder. Consequently, Hathor would have been considered to be Horus the Behdetite's consort (Watterson 1998: 33). The potential association with Hathor could be the reason for Horus the Behdetite being included in these ritual texts, or alternatively the reason may be due to the king's close connection to Horus (Wilkinson 2003: 201).

Just as Horus the Behdetite's role changed through time, so did the 'striking of the ball' ritual. De Vries detailed notable differences between the New Kingdom depictions and those from the later periods, with the former being described as a religious game and the latter taking a more apotropaic form (1969: 35; Kousoulis 2002: 154). Three of the New Kingdom examples state "Hitting the ball in order that he may be given life" (*sḫr ḥmꜣt ir.f di ḥnḥ*). The other New Kingdom example involved two priests, who retrieve the thrown balls for the Pharaoh (although the reason for doing so is not clear), the text requests that Hathor "give life and well-being to the King of Upper and Lower Egypt" (Borghouts 1973: 123; De Vries 1969: 28).

De Vries' observation that earlier depictions of the 'striking of the ball' ritual reflect a form of religious game or ritual performance, whereas the latter takes an apotropaic form (1969: 34-35; Kousoulis 2002: 154): although De Vries does not explore his observation fully, his theory for the early representations of the ritual is valid as they appear to serve a more votive theme, because they state that the king "may be given life". This differs from the later versions, which show a more aggressive tone and detail more clearly the destruction of Apophis. These versions describe the entity's eye as being "hacked up", "smashed to the

ground”,⁷⁰ and “battered” (1973: 134- 135).⁷¹ As the wielder of the weapon (either a bat or club), it portrays the king as taking a greater apotropaic role by making him responsible for protecting the god Ra from his nemesis and maintaining the cosmic order.

The connection with life is supported on the clay balls for there are two which display *ankh* hieroglyphs (ball nos. 39 and 40; Figures 42 and 43), both of which are found in a ‘bedroom’ in the Workmen’s Village at Amarna, along with two other balls possessing differing seal impressions (ball nos. 41 and 71). The hieroglyph for the word *ankh* is translated as ‘life’, but what it represents is debated; some of the theories include that it is a man’s girdle tie (Ikram 1998: 142; Petrie 1972: 14) or more commonly a sandal strap (Gardiner 1969: 557; *Wb* I, 193). The use of the *ankh* symbol is not always used as a word, because it can has been used to symbolise themes relating to life, such as its appearance in a good luck formula (Gorton 1996: 63). The giving of life by a goddess is referred to in four of the ‘striking of the ball’ texts⁷² and the presence of the *ankh* on the clay balls, combined with the presence of the names of pharaohs on other clay balls provide a strong link with the ‘striking of the ball’ ritual. Their discovery within the city of Amarna, primarily from houses, could further strengthen the argument that there is a connection between the monumental ‘striking of the ball’ ritual and domestic religious practice.

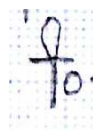


Figure 42: Ball no. 39 (22/118)

(Image courtesy of the Egypt Exploration Society)

⁷⁰ Philae, Hathor temple, outer hall, façade, left.

⁷¹ Philae, Isis temple, exterior of naos, east wall, 2nd (mid) reg.

⁷² Deir el Medina, Shrine of Hathor, Hall, Eastern wall (right of entrance); Luxor, Birth room (room no. xiii), northern wall, second register (fourth scene); Luxor, Chapel of Mut (room no. II), western wall, second register; Luxor, Chapel of Mut (room II), eastern wall, second register.



Figure 43: Ball No. 40 (22/158b)

(Image courtesy of the Egypt Exploration Society)

The New Kingdom texts may not elaborate on how this ritual achieves life, but the tone is passive, as opposed to the later examples, which possess a more confrontational tone (a full discussion of tone can be found later in the chapter), when the ritual is clearly defined as a way of overcoming Apophis. Apophis, who appears in a number of different zoomorphic forms, including a snake, turtle and crocodile, was perceived to be the enemy of Osiris and the dead, as well as Ra (Kemboly 2010: 276). Apophis often appears as an obstacle during the solar journey, and is always overcome by the sun-god Ra, who was assisted by other deities and sometimes humans, particularly the king. This is predominantly explicit in the Book of Overthrowing 'Apep (the dominant subject found on the Ptolemaic Bremner-Rhind Papyrus), which details how to protect the sun god, Ra, against the attacks from the demon, and thus protect his representative on earth, the king (Faulkner 1937: 166- 185).

Seven of the later Graeco- Roman examples of the 'striking of the ball' ritual⁷³ name Apophis as the enemy to be defeated, and that the ball represented his eye. The Greeks, when wishing to defeat their enemy named their adversary directly, as seen on Graeco-Roman curse tablets, to ensure that they were vanquished (Gager 1992: 14). This could have therefore influenced the Graeco-Roman 'striking of the ball' examples, where Apophis is named directly. Conversely the Egyptians believed that leaving out someone's name and

⁷³ Edfu: exterior of naos, east wall, 4th section, 4th register; outer wall, inner face, east wall 2nd section, 3rd register; Dendera: New Year's court, east wall, 2nd register; east crypt no.2, room B, east wall; exterior west façade, 4th register; Philae: Exterior of naos, east wall, 2nd register; outer hall, façade (Borghouts 1973: 149-50).

referring to them indirectly could dispel the power of an evil entity (Shaw 2015: 46; Vittman 2013: 1-2, 5-6). This was the case with Akhenaten who was referred to as *sbi.w* 'the rebel' or *ḥrw* 'the criminal', rather than by his actual name in an attempt to eradicate his memory (Gaballa 1977: 25, pl. LXIII; Gardiner 1938: 124; Montserrat 2000: 28-29; Murnane 1995: 241; Redford 1986: 252). This could explain why the earlier examples of the ritual do not specifically refer to Apophis, but instead alludes to him.

The later examples of the 'striking of the ball' ritual are from the Graeco-Roman period, during which Greek magical principles, such as the curse tablets, could have been integrated into Egyptian magic, explaining this change in the identification to Apophis. During the Hellenistic era in Greece (323-31 BC), Egyptian gods such as Thoth, Osiris and Seth are commonly referred to on the curse tablets. Further to this, there is an interesting, although unpublished and undated, example of a lead curse tablet from Egypt which contained hair (Gager 1992: 6-7, 13, 17). These examples not only indicate a crossover of culture, but also provide a link with hair which may have been used to carry out the curse upon the hair's owner. Hair was often used in magic in a variety of cultures, including the ancient Greek and modern Punjabi Hindus, as they believed possession of someone's hair would give you a magical power over them (Frazer 1923: 233; Leach 1967: 94; Lincoln 1977: 353; Winkler 1990: 86). Hair was often used in ancient Egyptian magic, such as when attempting to destroy the evil entity Apophis, a figure out of wax was created with Apophis's name written upon it, it was then wrapped with a sheet of papyrus with an image of the entity drawn upon it, and then the figure was tied up using black hair. The figure would then be spat upon, slashed with a knife, trod upon and then burned. The ashes would be placed in a pot of urine and then burned once again (P. Bremner-Rhind, col. 23/6-10 and 26/2-6; Eschweiler 1994; Faulkner 1937: 168, 172; Faulkner 1938: 42; Frazer 1923: 67; Kousoulis 2001: 30). Magic, such as this, could explain the presence of hair within a clay ball.

The focus on Apophis' eye is probably to represent him as an adversary of a similar countenance to that of the Eye of Ra. There are a number of texts which mention the blinding of Apophis' eye,⁷⁴ emphasising the importance of destruction of his eye in this ritual (Borghouts 1973: 119). The goddesses mentioned in the versions of the "striking of the ball" ritual (Hathor, Sakhmet, and Tefnut) are all "hypostases of the divine eye", meaning they serve as both the mother and daughter of Ra, and are essential to his rejuvenation process (Troy 1986: 23), making them the appropriate divinities to be included (Borghouts 1973: 137).

The depiction of this rite at Deir el-Bahri⁷⁵ includes priests, who do not appear at all in the Late Period representations (Kousoulis 2002: 154). The priests depicted can be identified as lector priests by the sashes across their chest. Originally this role would have been fulfilled by a member of the royal family, and then later by royal appointment, and the responsibilities included speaking prayers and reading rites. On a daily basis the priests were likely to have performed rituals in the king's stead, but theologically it was the king's duty to perform rituals to satisfy the gods and maintain order (Bryan 1992: 78; Mendoza 2008: 1-2; Te Velde 1995: 1731-2, 1745, 1748; Teeter 82; Wilson 1944: 203).

There is some debate as to the purpose of their presence in this example of the ritual. If their purpose was to catch the ball, then this would disprove the theory that the 'striking of the ball' ritual is an execration ritual whereas, if they are assisting the king by passing him balls to destroy, it could prove the theory. I believe that, if the scene represents the same theme as the other examples, it is likely that their role was to aid in the destruction of the clay balls, as Kousoulis proposes.

⁷⁴ The Book of Caverns, [5], 62, V- 63, V; Cairo JdE 69771, III, 18, 23; Papyrus Bremner Rhind 26, 12, 16; a fragmentary stela at Deir el Medinah (Bruyere 1927: 42, fig. 29, fragment 4).

⁷⁵ Shrine of Hathor, hall, eastern wall (right of entrance).

The inscription which accompanies this is read differently by scholars, specifically the word *hnp*,⁷⁶ translated by De Vries as “catch” (1969: 34) which is further supported by Faulkner (1991: 192), as opposed to “hit, strike” by Borghouts (1973: 123) and “taking away” (of life) by Kousoulis (2002: 154). The translation chosen significantly affects the interpretation of this scene. If “catch” is the correct translation, then clearly the purpose is not to destroy the ball. To “hit, strike” does have implications of possible destruction, whereas “taking away” (of life) strongly suggests that annihilation was the intent. De Vries’ and Borghouts’ translations of the whole phrase both imply that the priest either caught or retrieved the ball,⁷⁷ whereas Naville suggests an alternate view by proposing that perhaps the priests were responsible for handing the king a new ball (1901: 4).

Further to this, Kousoulis theorises that the priests may have aided in the destruction of the balls, as well as providing the king with new balls, as suggested by the extra balls being held by the priests in the Deir el Bahari example. Kousoulis also provides an alternative translation to that of De Vries and Borghouts:⁷⁸ “Being destroyed by the priest, after he has stricken them” (Kousoulis 2002: 154-155). Given the nature of overcoming an evil entity in order to protect the sun god, it seems unlikely that the purpose would be to catch the ‘eye’ (of Apophis), but destroying the ball fits better with the context of the entire text, which suggests the destruction of the clay ball.

Alternatively, a more simple explanation is possible; that the priests were used to show that more than one ball was required for this ritual, and that these were passed to the king as he struck them away or destroyed them. Whatever their purpose was in this ritual, the

⁷⁶ In Erman and Grapow’s *Worterbuch der Aegyptischen Sprache* *hnp* is translated as ‘to catch’, but is followed with the determinative of the upper body of a human with a ball in one hand (1971: 290).

⁷⁷ De Vries: “it is the prophet who catches it for him (*in hm-ntr hnp n.f.s <y>*)”; Borghouts: “catching it for him by (i.e., on the part of) the prophet (*hnp in hm-ntr km3.n.f.s <w>*)” (Kousoulis 2002: 154).

⁷⁸ With Egyptian hieroglyphics their translation and interpretation can vary greatly due to the multiple meanings of words, which can be harder to translate without the appropriate determinative included.

presence of the priests was obviously not entirely crucial, as they only appear in one relief, unlike the king, and the gods for whom they perform.

Two other examples set an alternate tone by suggesting that the ritual is a part of a child's game (Edfu: exterior of naos, east wall, 4th section; Dendera: new years court, east wall, 2nd register), one from the Ptolemaic period and the other is undated: "Euergetes, who has taken the club of *b3k*-wood together with the ball in his hand, [who enjoys himself (?)] as a boy, a youngster, a child" (Borghouts 1973: 129); "The King of Upper and Lower Egypt, the son of Re, who has taken the club of *b3k*-wood together with the ball in his hand, who enjoys himself as a boy, a youngster, a child" (Borghouts 1973: 132). These are the only instances which refer to the Pharaoh as a child and are the only 'striking of the ball' examples which suggest that the ritual may be a game, but other than these two elements there is nothing particularly different from the other examples of the ritual. According to Borghouts, there are no Egyptian texts, other than these, which refer to such a game (1973: 137) and I have not found any myself. Emphasising the game aspect of the 'striking of the ball' ritual could have been a portrayal of the easy defeat of the sun god's enemy Apophis, to the extent that even a child could manage to overcome him.

This reference to the ritual being a child's game could hold some essential truth to it, for a child could easily make a clay ball simply by rolling clay in their hands and leaving it to dry in the sun. Those balls containing hair were not decorated in any form; they are simply locks of tightly packed hair with clay surrounding it. This and the other contents of the clay balls (papyrus, linen etc) could have easily been incorporated by a child, particularly as there is substantial evidence to suggest that the hair included would have been cut from the head of a young child. The inscriptions, when they occur, could have been copied by a child, or added by an adult with the appropriate skills, and a seal may have been borrowed from an adult to create an impressed decorative element.

There are no depictions of children playing balls games in funerary art (De Vries 1969: 25), but because the pharaohs are depicted as adults, the possibility of this ritual being a representation of a game for adults, as well as children, must also be explored. Ball games are known to have existed in ancient Egypt from wall depictions and sporting artefacts; equipment would range from leather balls stuffed with organic material (Figure 44) to those made from wood, baked clay, papyrus, faience or palm leaves. These balls would range in diameter from three to nine centimetres (Decker 1992: 111), roughly the same size as the clay balls.



Figure 44: Leather Ball used for Sports (Decker 1992: 111)

According to Decker, there are three main forms of ball games in ancient Egypt – juggling, ball catching and the third form involves a bat. The first is only has evidence of being played by women, and often appears in the same row as depictions of other sports, similar to acrobatics, and images of spinning and weaving (Decker 1992: 113). Men, however, are engaged in alternative activities such as hunting, fishing, farming and painting.

An example of women playing a game of catch alongside juggling can be seen in the 11th Dynasty Baqet III's tomb; this scene (Figure 45) can be found in the main chamber, north wall of tomb no. 15 at Beni Hasan (Newberry 1893: pl IV). The game consists of two sets of three players, all female, and in the centre of the scene the ball is thrown between two players who seem to be on opposing teams; whilst their two teammates stand further away and appear to be clapping, possibly a specific rhythm. It is possible that they took it in

turns to play, but there are no further details about the game. This scene does have a word, *rwjt*, accompanying it and as this word is not found anywhere else, it is possible that this only names the game (Decker 1992: 113).⁷⁹ Another form of a ball game shows two teams again, but this time with only two players per team; one player throwing a ball to her opponent whilst sat on the back of their teammate, who is leaning over (Figure 46; Decker 1992: 113-4).

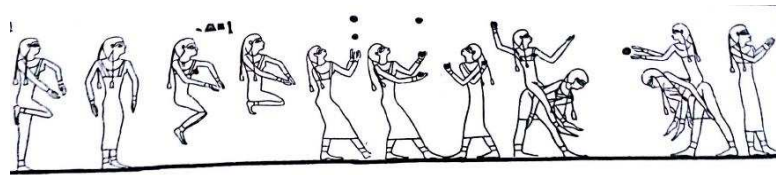


Figure 45: Ball games (Newberry 1893: pl. IV)



Figure 46: Ball games in the 11th Dynasty tomb of Kheti (tomb no. 17) at Beni Hasan. (Newberry 1893: pl. XIII)

Whether these women are participating in a recreational activity or are performing entertainers is not clear; however, when observing their unusual hairstyles they appear strikingly similar to those found on depictions of dancers primarily from the 5th Dynasty. Known as the 'ball hairstyle' (seen in Figures 47 and 48), the style consisted of a ball of clay or mud attached to the end of the hair. It has been suggested that this was to emphasise the movements of the dancer, whilst she performed. During the 5th Dynasty this hairstyle becomes increasingly popular across all classes (Fletcher 1995a: 133), so although this does not conclusively prove that the women in Figures 45 and 46 were professional dancers, it is

⁷⁹ Also supported by Hannig (2006: 1462)

possible that the hairstyle was representative of a style worn whilst dancing. It would not be incorrect to suggest that balls may have been used as part of the dance perhaps acrobatic in some form, rather than depicting a sport, similar to the use of batons by Majoretters or the hoop in a hoop dance.

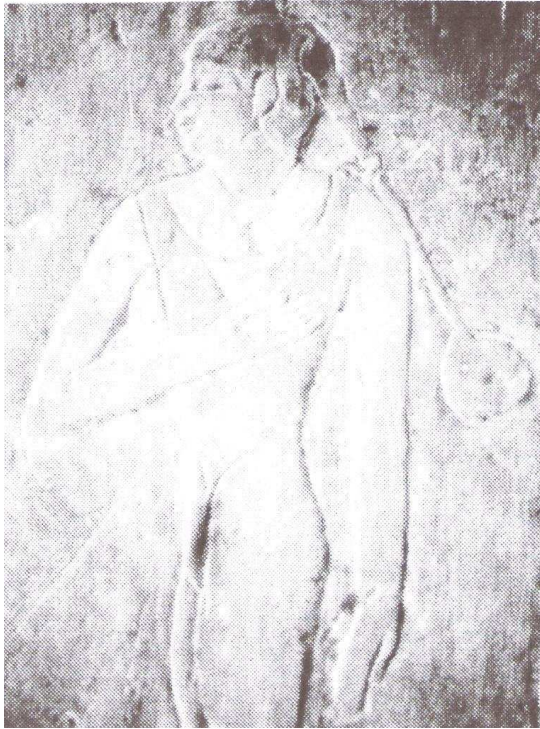


Figure 47: Painted Relief Figure of Mereruka's daughter, Saqqara, 6th Dynasty (Fletcher 1995b: Fig. 186).

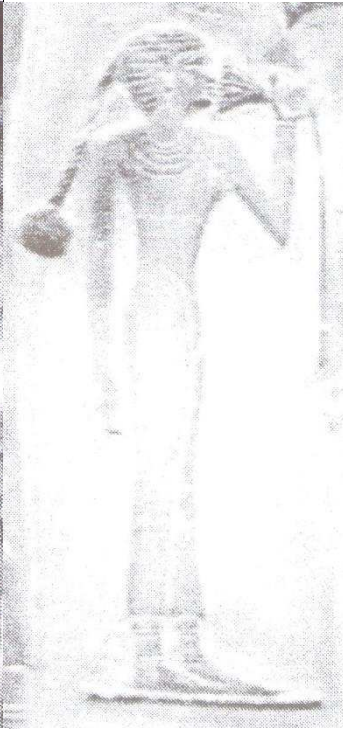


Figure 48: Relief figure of Ipi's daughter, Saqqara, 6th Dynasty. Cairo CG.1536.A (Fletcher 1995b: Fig. 187).

These games, however, have no clear link to any religious symbolism, and at face value are depictions of a normal day-to-day activity. They do not include the deliberate destruction of balls or the use of bats to hit the ball away like the modern ball games of cricket and baseball, nor do they depict any men playing the game. Based on the available evidence there is nothing to indicate that a ball game involving a bat existed, other than the references in the two 'striking of the ball' examples which refer to the ritual as a child's game. However, the sticks and clubs could be interpreted as a weapon used by the king to defend against evil, rather than a piece of sporting equipment.

Scholars refer to the tool used for hitting the balls as either a bat or club, but De Vries investigates more thoroughly the depictions of the weapons, and how the king holds them, and consequently their potential effectiveness in destroying a clay ball. For instance, he notes that in some examples the king holds a long straight stick in the centre of the shaft, making it difficult for him to be able to hit and destroy a clay ball [Luxor temple, birth room (room no. XIII), north wall, second register], whereas the other depictions show the king holding a club-like weapon in a position ready to strike [Edfu, exterior of sanctuary, west wall; Edfu, library, north wall, lower register; Philae, exterior of naos, east wall, 2nd (mid) register; De Vries 1969: 28-32]. It is particularly interesting that the specific depictions showing the king with a club, as opposed to a stick, are also the later examples of the scenes, which have the more destructive tone in the text by making the ritual appear more warlike. Protection, comparable to Re's, can also be gleaned from clubs in spells, such as in Papyrus Berlin "Hail to you, club of willow-wood that protects the body whose knob is (made) of the pure acacia" (Papyrus 3038 [190] 21, 3-9; Borghouts 1978: 46).

De Vries' insights into these depictions are significant for discussing whether the balls were actually struck during the performance of this ritual. The weapon is referred to in the text as a *b3k*-stick: *b3k* translates as servant, work or duty (*Wb* I, 423); from this definition it could be interpreted as the stick which enables the king to do his duty in maintaining the cosmos, or to serve the specific deity which is being addressed. In three of the scenes, a club or mace are the common weapons which the king is often depicted holding aloft whilst vanquishing enemies, as seen on the Narmer Palette (Shaw 31-3, 41; Wilkinson 2000: 24), and is depicted in the same way for these scenes. The club appears in the later depictions of the ritual, which coincidentally have the more aggressive and violent connotations.

The long straight stick appears a total of three times.⁸⁰ On one example at Deir el Bahari the king holds a long wavy stick (Neville 1901: pl. C). The reason for this unusual shape is not clear, but neither could it have been effective at hitting away or destroying a ball made of any other material than clay. The New Kingdom use of this stick may be related to the non-aggressive inscriptions found with the monumental scenes, and that the evil merely needed to be struck away, as opposed to completely destroyed. The change in later depictions (Ptolemaic and Roman) to the more club-shaped stick along with the accompanying text's tone becoming more aggressive (discussed fully below) would have been to accentuate the defeat of an enemy and to emphasise the violence towards the Eye of Apophis by using a more effective weapon.

The size of the clay balls depicted on the striking of the ball relief (Figure 40) looks substantially bigger than the physical artefacts found (the biggest being 8.5cm in diameter), and could be as large as 15 cm based on the proportions of the hand and ball in the image. De Vries suggests that the object being hit may not be spherical, but cylindrical or disk shaped (1969: 27). These are not convincing suggestions, as it would be difficult to hit a disk, and it would have been difficult to accurately throw a cylinder, not to mention the hitting of a thrown cylindrical object may have recoiled and inflicted injury.

De Vries believes that if the balls were spherical, those depicted could be as big as 13cm in diameter, which is significantly larger than the average size of the ancient Egyptian leather balls used for sports and larger than the clay balls. He argues that this may be due to "exaggerated proportions" to emphasise the size of the club and bat (1969: 31, 33). It is possible that the larger size of the balls depicted emphasises the object that the Pharaoh is hitting and was not an accurate representation of the required size of the clay ball. In Egyptian art exact proportions were not always followed. For example, important people

⁸⁰ Luxor temple, Mut chamber, east wall and west wall; Luxor temple, birth room, north wall, 2nd register.

are portrayed as substantially larger than the other persons shown in the scenes (Iverson 1975: 12); this also occurs in depictions of the king defeating the hippopotamus form of Seth at Edfu (Figure 49), where Horus is portrayed as substantially larger than his enemy. This selective use of accurate proportions could indicate that the size of the balls were emphasised to highlight their use in the ritual. If the ball represents Apophis, then the convention to show the pharaoh as larger than his enemy is still being followed.






Figure 49: Temple of Edfu. Photograph: A.Hammett

With regards to the material of the balls themselves, Borghouts disagrees with De Vries' claim that the text identifies the balls as 'clay' (De Vries 1969: 33)⁸¹ and asserts that the fragile nature of clay balls would mean that they would be easily smashed. Borghouts argues that, as one of the texts he has translated refers to the balls being caught by priests,⁸² an easily breakable ball would not be desirable for performing this ritual, unless conducted by professionals who were not likely to drop the ball. Yet Borghouts does not consider that, in at least four of the texts, the intention of smashing the balls is strongly

⁸¹ The *Topographical Bibliography* also refers to the balls as clay in a number of cases (Porter and Moss 1991: 84, 135, 146, 246).

⁸² "Two men below, each having a ball in hand: 'fetching by a god's servant, after he has hit them away' (Borghouts 1973: 123).

implied by the instructions to hit the ball, which is associated with the eye of Apophis. The destruction of the eye is apparent in the use of the phrases translated by Borghouts, such as “hacked up”, “I have hacked up exactly before you”,⁸³ “smashed to the ground”,⁸⁴ and “battered” (1973: 134- 135).⁸⁵

Borghouts instead suggests that the balls were made of wood due to the plant and tree determinatives, such as  (M2),  (M3),  (M34), found in the spellings of the noun ‘ball’ in the text. From using these determinatives, Borghouts relates the *hm3*-ball to the *hmm*-plant; the latter being mentioned on Papyrus Leiden I 348 as the place where Seth hides Horus’ eye after a battle. He believes this will allow the king to be ‘rough’ with the representation of the Eye of Apophis, whilst still being able to use the items again (Borghouts 1973: 138-9). His theory that the balls may have been made from wood has some validity due to the tree determinatives and the connection with the Seth and Horus myth, but the lack of direct evidence to substantiate his claim and the clear reference to the smashing of the balls makes it unlikely that the balls could have been made of wood. Furthermore, Borghouts’ theory does not correspond to the evidence provided by the execration rituals and texts, such as the hitting of the balls with a club and the aggressive language highlighted above, which highlight the importance of the destruction of objects (frequently clay) in order to dispel evil properly.

Kousoulis further argues that the use of the words *skr* ‘to hit, strike’ emphasises a “destructive meaning” as it has been used since it first appeared in the Pyramid Texts (Kousoulis 2002: 156) and could provide further support that the balls would have been easily destructible, and therefore more likely to be made from clay than wood. The word

⁸³ Dendera Mammisi, Ennead Room, east wall, 4th register.

⁸⁴ Philae, Hathor temple, outer hall, façade, left.

⁸⁵ Philae, Isis temple, exterior of naos, east wall, 2nd (mid) reg.

sḳr 'to strike' is frequently used in phrases found in texts describing the vanquishing of foes, emphasising the violent connotations behind the word (Wilson 1997: 939).

Conversely, like the word *ḥm* 'to hit', *sḳr* can also be used in the sense that by striking or hitting an offering it is then given to the gods. An example of this can be seen in the *sḳr-t-ḥdt* 'striking (consecrating) the white bread' ritual which is performed for the god Thoth. This ritual is performed to encourage Thoth to protect the king, who was considered to be the god Horus on earth. The bread, which represented the Eye of Horus, is therefore an appropriate offering (Pyramid Text 666⁸⁶; Faulkner 2007: 277; Stroot-Kiraly 1989: 158; Wilson 1997: 939). The consecration aspect of *sḳr* in this case may not be applicable to the *sḳr ḥmʒ* as the destruction of the balls and the violent vocabulary used in the later examples of the ritual would strongly suggest that it was used in the sense of the killing of a foe. However, there may be an element of offering present in the earlier New Kingdom examples, which are performed "in order that he may be given life".

Bianchi suggests that the depicted balls on the monumental inscriptions may be illustrating the segmented faience balls that may have been the spheres destroyed as part of the 'striking of the ball' ritual and symbolic of the killing of the entity Apophis (Figure 50; Bianchi 1998: 25). The hollow faience balls would have made a distinctive high toned noise and shattered easily into many pieces, unlike the clay balls, which would have produced a duller thud as it was hit and may not have broken apart as easily because they are solid spheres. Ceramic might have made a distinct sound suitable for this ritual, but non-hollow objects do not fire well and often explode (Peterson and Peterson 2002: 37). Sound is frequently an important part of ritual, as seen in British prehistorical archaeology (Cross and Watson 2006; Watson and Keating 2000; 2003), and the noise upon impact could have

⁸⁶ "O King, I present you with your bread just as Horus presented him with his eye... I provide you with this bread of yours just as Horus provided him with his Eye, and this... here is your *wʒg*-offering" (Faulkner 2007:277).

been a significant part of the 'striking of the ball' ritual. However, there is little evidence to support that the balls involved with this ritual needed to be faience and decorated with a segmented pattern.



Figure 50: MAA 1992-05-15. Segmented Faience Ball.

(Photograph: A. Hammett, Courtesy of Museum of Archaeology and Anthropology, Cambridge)

It could be argued that these may have been a high quality version (and thus more expensive) of the clay balls, however if this was the case then we would expect the segments to show on the monumental examples and the blue paint could be indicative of its association with Apophis, who is sometimes depicted blue (Morenz 2004: 203; Piankoff 1949: 136, Pl. 8). There are no painted examples on the monumental scenes to support this and the texts do not indicate a painted faience ball was required for the ritual. Furthermore, the fragility of the hollow faience balls would result in the destruction of them upon impact with the bat. The stronger clay balls would allow them to be struck a distance away at the same time as destroying them. This allowed the illusion of repelling evil and then casting it away. There are certainly no clear indications of this in the depictions, but the lack of colour remaining on the temple walls may contribute to this lack of evidence.

Borghouts also dismisses the possibility of the use of balls made of clay, as he believed that no artefacts of this nature had been found, but noted that the only similar artefacts found

were disc shaped with a hole through the middle and were dated to the prehistoric period (1973: 138), possibly similar to those in Group J (Appendices 2). It is clear that he was not aware of the presence of any of the clay balls which are focused on in this thesis. Had Borghouts been aware of these, he may have considered it possible for them to be part of the “striking of the ball” ritual.

There is evidence to suggest that the clay balls of this thesis may have been the physical remains of the ‘striking of the ball’ ritual, and is indirectly supported by Borghouts, who highlights that in his example no. 12 from Dendera there is a small circle in the middle of the ball (Figure 51). This could represent the iris or pupil of the Eye of Apophis, which is repeatedly referred to in the texts related to the striking of the ball ritual, and occurs in the Coffin Texts (Borghouts 1973: 116, 138).

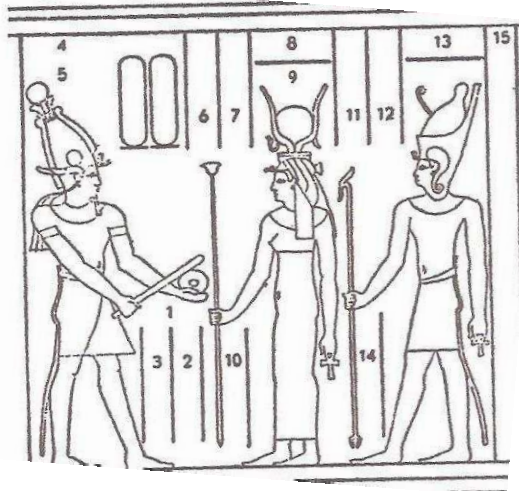


Figure 51: Temple of Dendera (Chassinat and Daumas 2005, pl. 563)

Alternatively, this small circle could be indicative of the seal impressions found on a number of the clay balls included in this study’s database. Many of the clay balls exhibit several oval impressions of seals, yet there are only three clay balls (ball nos. 39- 41) which

possess only one seal impression. The circle may have represented the circular patterns found on the balls in Group J but, although these examples do have a large circular indentation in their centre, there are additional small indentations surrounding the central indent.

Although the circle may not represent the oval seal impressions found on the clay balls, understanding the purpose of seal impressions including the name of a pharaoh is essential to analysing whether the clay balls may have been related to this royal ritual. Scarab seals with the prenomen⁸⁷ name of kings were not used as official seals, as they were often of poor quality, without royal titles, or a cartouche. Official seals were shield shapes and included the name of the administrative department they belonged to (Ben-Tor 1999: 53-4, 65). The scarabs would not have served to glorify the king, as this what the monumental inscriptions did in abundance (if the common people even had access to these areas). The purpose of such scarab seals was to serve as protective amulets to lay persons, invoking the king's power as a god (Ben-Tor 1989: 15-16, 65; Ben-Tor 1999: 54; Germond 2005: 32), or as votive offerings to a living or dead king (Ben-Tor 1999: 54; Tufnell 1984: 52). Although scarab seals did not exist in the Old Kingdom, the names of Old Kingdom kings are found on scarabs which originated from a later period, when the early kings were revered and invoked as gods. As a consequence, these scarab seals were used as amulets (Ben-Tor 1989: 16; Tufnell 1984: 52). To ancient Egyptians one's name was an important aspect of life, and was vital to the process of rebirth (Ikram 2003: 24); thus the importance attached to a king's name would have been far greater (Ben-Tor 1989: 15; Wilkinson 2000: 24). The following kings' names have been discovered on the clay balls: Akhenaten, Tutankhamun and Tuthmosis III.

⁸⁷ Otherwise called the 'throne name'. Most Egyptologists regard the praenomen as the Pharaoh's birth name, but others consider it to be a name created later individually (Leprohon 2013: 17).

Akhenaten

Balls nos. 37 and 93 have the name of Akhenaten impressed on them (Figure 52 and 53), and the former was found with the additional name of the god Aten. Both of these clay balls were excavated from the site of Amarna, and we know that ball no. 93 was found specifically in a house in the Main City. Royal names can be classified as such without needing a royal title to accompany the name or a cartouche. The praenomina of kings appear on royal name scarabs, and it has been argued that these in particular were used as amulets (Ben-Tor 1999: 65; Germond 2005: 32). The impression on ball no. 37 details the praenomina of the Akhenaten (Quirke 1990: 60-1; von Beckerath 1999: 142-3; von Beckerath 1984: 86), and ball no. 93 (according to the finds card) preserves the name of Akhenaten, but there appears to be a misspelling, probably by the recorder, as this does not match the spelling for Akhenaten's name. The identification of this name of Akhenaten's is most likely incorrect, but has been included until this can be otherwise confirmed.

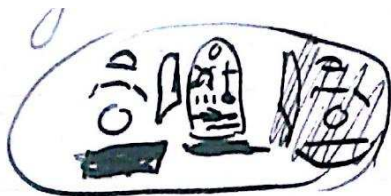


Figure 52: Ball No. 37 (22/397)

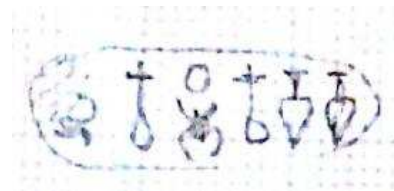


Figure 53: Ball No. 93 (22/571)

(Image courtesy of the Egypt Exploration Society)

(Image courtesy of the Egypt Exploration

Society)

Pinch argues that the use of cartouches on the clay balls could suggest that these artefacts were votive offerings to the king, who would act as a mediator with the gods. The principle of this would have been especially strong with Akhenaten (1993: 329), who was considered

the main intermediary with the god Aten. Akhenaten enforced this as a way of suppressing the priesthood of Amun, whom he believed had too much power (Kemp 2006: 298).

This theory is certainly plausible, particularly with the well-established cult of the king during the New Kingdom and his role to maintain *maat*. The king would have been construed by lay persons as someone who could use his power to aid in difficulties only a god could solve, due to his role as intermediary with the gods. By writing the king's name on an amuletic object, his power would thus be invoked in the same way as a deity addressed in a prayer.

An alternative view is that if these items were used as part of a financial transaction, the use of a cartouche could indicate that goods have been traded in the king's name (Pinch 1993: 329). Clay balls are known to have been used as a receipt for a financial transaction in Mesopotamia (Ben-Tor 1991: 6; Sachs 1953: 167; Shiloh and Tarler 1986: 201), and there are numerous examples of Egyptian traded products which are impressed with the name of a king (discussed in Chapter 6).

As stated previously, Aten replaced the sun god Amun during the Amarna period as the sole deity of a new monotheistic religion, but only the pharaoh could communicate with Aten (Iverson 1996: 55-6; Baines 1998: 286). The god was promoted by Akhenaten from the 18th dynasty, and was depicted as a disc with sunrays beaming down with human hands at the ends, sometimes holding an *ankh*. He was considered a creator god (Pinch 2002: 109), and was heavily praised in the 'Hymn to Aten' for his creations: "the flowers live because of your rays, the seeds sprout from the soil when you shine" (Pinch 2002: 110).

Aten, unlike the primary sun and creator god Ra, did not undergo a nightly battle in order to re-emerge the next day victorious against chaos, leaving a void of explanation of the natural patterns of the sun (Pinch 2002: 110). As a consequence, we should question

whether it would be likely that Akhenaten would have commissioned a temple inscription of the 'striking of the ball' ritual using the god Aten. The ritual is centred around the struggle between the sun god and the evil entity Apophis, so this seems unlikely. However, the well-established view of the Pharaoh as the protector of Egypt may have prevailed; as a physical protector from invading forces as head of the army, and as protector of the cosmos as head of the religion.

Tutankhamun

Ball no. 36 has eight impressions of the name of Tutankhamun (Figure 54; Figure 55 is a comparative seal impression) and was found at Amarna in house U33.2. The city was abandoned in the early part of Tutankhamun's reign (Kemp 1987: 43; Peet 1928: 178), so it is highly likely that this ball was produced at the beginning of his reign. Excavations at the Central Village had a lack of ring bezels belonging to Tutankhamun, but this does not provide evidence of abandonment of the area after the reign of Smenkhkare (Shaw 1995: 236). Tutankhamun's name change from Tutankhaten took place before his fourth regnal year (consistent with the change back to the old religion), and Eaton-Krauss argues that it may even be as early as the first year due to the complete lack of the nomen Tutankhaten at the site of Amarna (1998: 211).

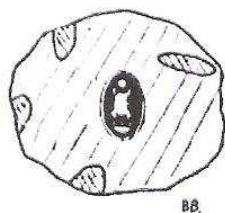


Figure 54: Ball no. 36 (Fairman 1933: Pl. LVII.BC)

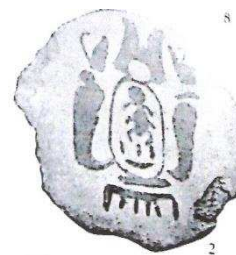


Figure 55: Seal impression of Tutankhamun (Petrie 1917: Pl. XXXVII)

Akhenaten and Tutankhamun both belong to the New Kingdom, thus correlating with the general period of the earlier depictions of the 'striking of the ball' ritual; however, there are no examples of these particular kings being portrayed as taking part in the ritual, probably

due to the kings' monotheist religion centered around the god Aten (albeit Tutankhamun only did so for a short time). The presence of their names on the balls could be explained by the practice of popular religion in homes, in addition to the perception of the king as an apotropaic force for his country. Without the names of these two kings present on examples of the 'striking of the ball' ritual there is no direct link to ball nos. 36, 37 and 93. However, arguably the general protective concept of the king could be evidence of a connection between the two.

Tuthmosis III

Recently, a clay ball has been discovered at the New Kingdom town of Sai Island in Nubia (ball no. 124), which has impressed upon it the name of Tuthmosis III (Budka 2016), who is depicted in the earliest scenes of the 'striking of the ball', providing a vital piece of evidence for this theory. The lack of depictions of Akhenaten and Tutankhamun on the ritual scenes could be explained by the destruction of many of the scenes of the Amarna age due to contemporary ill feeling towards a Akhenaten's heretical reign (Hornung 1992).

4.2.2. Throwing Clay Balls Towards the Cardinal Points

From the New Kingdom onwards, a similar ritual to the 'striking of the ball' ritual is found on papyri and temple walls⁸⁸ as an offering to Amun and Osiris, and on the Edifice of Taharqa in Karnak from the 20th Dynasty a progressive "cultic version" of this rite from the 25th Dynasty (Cooney 2000: 15; Kousoulis 2002: 158). The throwing of clay balls scene on

⁸⁸ Unpublished sources include: Pap. Berlin 3037, cols. 1- 3; Pap. Brooklyn 47.218.138, col. XII, 15-25, to col. XIII, 1- 16; Pap. New York MMA 35.9.21, cols. 26- 32 (Goyon 1979: 63). Published sources include: Pap. Louvre 3237 and 3239 (Chassinat 1893: 10-17); Hibis Temple, Khargeh, Osirian Rooms (Porter-Moss, *T.B.* VII, room 15, nos. 143-44, 288; Davies, Hibis III, pls. 19-20). See also Goyon, *T.M.II*, p. 190.

the Edifice of Taharqa depicts the mound of Djeme (Figure 44),⁸⁹ otherwise known as the cenotaph of Osiris,⁹⁰ with a burial shrine on top, from which an acacia tree grows.⁹¹ On one side of the shrine the god's wife of Amun, a royal priestess, who during the 25th Dynasty was the daughter of the king and ruled in his stead whilst he was away fighting (Teeter 1999: 405). In this depiction the god's wife shoots four arrows at four targets, and on the other, the king throws balls at the four cardinal points. This ritual differs from the 'striking of the ball' ritual because, although it involves the throwing of clay balls, they are not struck by a bat or club. Furthermore, the clay balls are inscribed with the name of apotropaic deities and are thrown towards the cardinal points (Figure 56; Kousoulis 2002: 158):

"Recitation: Let the king (?) himself [throw] the four balls toward the south, the north, the west and the east in front of this god, [during his solemn procession to Kôm-Djemê, when he goes (there) to make a halt at the Mound of Osiris, at the side of Mut, the mistress of the sky, according to the fact he is the lord of the month for whom is celebrated the beginning [of the decade], (when) he comes out of the Opê-of-the-South to take care of his temples, in which he rests every day, like Re in the sky." (Kousoulis 2002: 158; after Parker et al.1979: 65)

⁸⁹ For further information on the celebrations related to the mound see Goyon 1979, 49-54, plates 22-25, where the description of these events is detailed from the edifice of Taharqa.

⁹⁰ There are numerous mounds of Djeme which are claimed to be the burial places of several different gods (von Bomhard 2008: 67).

⁹¹ The significance of the acacia tree is unclear. The tree was used for a variety of practical purposes including the bark being used as source of tannin for producing leather and the pods for dying linen blue (Hepper 1990: 23). The existence of the title 'the overseer of the acacia' highlights the importance of the material to the Egyptians (Wilkinson 1999: 48).

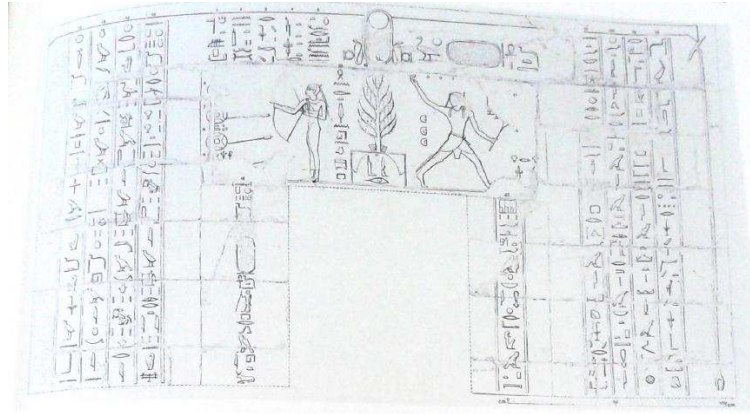


Figure 56: The Edifice of Taharqa (Parker et al. 1979: pl. 25)

The Edifice of Taharqa acted as a festival hall (*wsht-ḥbt*)⁹² during the reign of the Nubian pharaoh Taharqa in the 25th Dynasty, but the exact festival associated with it is unclear (Cooney 2000: 15). The scene, which is addressed in this section, does refer to the Decade festival (Cooney 2000: 29), which entails moving the image of Amun every ten days from Karnak to the Small Temple of Amun at Medinet Habu on the other side of the Nile. Here the god renews his powers, and thus the king's powers too, through contact with the primordial gods (Cooney 2000: 35; Goyon 1979: 82). The emergence of this festival does not begin until at least the 21st Dynasty (Cooney 2000: 35; Dorese 1979: 41; Sethe 1907: 882; Traunecker 1995: 193; Traunecker et al. 1981: 128, no. 200, 131),⁹³ and the Edifice could have been a substitute location for the Decade festival itself to prevent the need of having to cross the river constantly in order to maintain *maat* (Cooney 2000: 37).

The presence of the God's Wife of Amun alongside the king can be explained by the high status of her position; during this period the role was often held by the pharaoh's daughter and held an equal position to him, surpassing the power of the High Priest of Amun (Bakry 1996: 10; Dodson 2002: 179). The south wall in this room reflects the same theme and depicts four gods (Sobek, Dedun, Soped and Horus), who represent four different

⁹² This is also referred to as the hypostyle hall or the great court, generally considered to be the 'nucleus' of the temple (Fairman 1954: 169).

⁹³ For a more detailed bibliography on the Decade Festival see Cooney (2000: 35, no. 130).

geographical locations and protect the sun god in a similar way to the above scene (Cooney 2000: 28-29; Parker 1979: 69).

The number of four, or the repetition of a phrase four times, is used frequently on monumental inscriptions like this, as well as spells, in funerary texts and many other forms of text. According to an account of the Festival of Edfu, four geese are released to the four winds in celebration of Khepri defeating Apophis (Blackman 1998: 67; Erman 1907: 215ff). The significance of four is representative of the four cardinal directions in these texts, and is likely also to be the case in texts which do not clarify the reason for the use of the number. Frequently, spells have instructions to speak a certain phrase four times,⁹⁴ and it is likely that this is to protect the spell user from all directions, the same way that the sun god is protected from all cardinal points.

In a similar way, the two figures of the king and the God's Wife of Amun on the mound of Djeme scene protect the shrine from evil or chaos occurring whilst the rebirth of the divine sun takes place. The Karnak temple itself is protected at all four cardinal points by the presence of four colonnades situated in each cardinal direction. By constructing this monument, Taharqa hoped to fulfil his duty as king by protecting the god, maintaining *maat*, and to express his link between the gods and humans (Cooney 2000: 28-29, 46).

The throwing of the clay balls ritual differs not only from the 'striking of the ball' ritual in date, but instead of destroying the balls using a club, king Taharqa throws them at the cardinal points (presumably obliterating the balls in the process) as he runs in the four directions. Taharqa does hold a pear shaped mace, a deadly weapon used ritually by the pharaoh (Partridge 2002: 32-33; Shaw 31-3, 41), but it does not appear to be used in any specific action during the ritual (Parker et al. 1979: 62).

⁹⁴ There are numerous examples of this instruction, but a few examples include Utterances 23, 32, 81, 199, 214, 224, and 404 from the Pyramid Texts (Faulkner 2007: 4, 6, 19, 36, 41, 52, 132). Also the repetition of four can be seen in the Coffin Texts e.g. 234, 939, and 995 (Faulkner 2004: 79, 103, 184).

The balls thrown in this depiction are known to be comprised of clay due to a recording of the ritual found on late papyri:⁹⁵ The passage of the text entitled “Prayer (*dḥw3W*) on the four balls of clay”, with the main text translated as follows, “Hail to you, Protections of Re, born of him (which are) what he gave to his son Osiris, to protect him forever! (*šꜥ.w nw Rꜥ pr(w) im.f bnn.w hpr(w) n Rꜥ. rdit.n.f n s3.f wsir hr iry s3.w.f r nhḥ*)” (Papyrus 35.9.21 of New York, col. 27 (12-13); Parker et al. 1979: 63). This further informs us that the names of deities were written on the clay balls and then thrown towards a specific cardinal point.⁹⁶ The ball shape was used to carry a curse towards incoming enemies from that direction and the objects are described as “the protections of Re” for the “benefit of Osiris” (Parker et al. 1979: 63; Kousoulis 2002: 158). In the example provided by Papyrus New York 35.9.21 the ritual was taking place to protect Re from the god Seth, who has common associations with creatures of Apophis, such as crocodiles, hippopotamus and oryx (Germond 1989: 53-4; 2005: 31; Griffiths 1970: 199; Houlihan 1996: 121; Kemboly 2010: 277; Osborn and Osbornová 1998: 146; Pinch 2002: 106). The ritual then invokes numerous deities for each cardinal point (col. 30, 12-13; col. 30, 6-31, 16; Goyon 1975: 372, 386-392).

Each of the cardinal points is associated with a specific pair of gods: North: Shu and Tefnut; East: Sakhmet and Bastet; South: Amun and Montu; West: Neith and Wadjet.⁹⁷ By attacking each of the cardinal points by throwing the balls ensured that the way was safe for the gods and that their enemies were defeated (Parker et al. 1979: 63). The cardinal points do

⁹⁵ Pap. Berlin 3037, cols. 1-3 (unpublished); Pap. Brooklyn 47.218.138 col. XII, 15-25, to col. XIII, 1-16 (incomplete unpublished extract); Pap. Louvre 3237 and 3239 (extracts in Chassinat *RT* 14 [1893], pp. 10-17); Pap. New York MMA 35.9.21, cols. 26-32 (complete, unpublished). Details of unpublished materials were supplied by Parker et al. (1979: 63).

⁹⁶ In this case Papyrus New York (otherwise known as *Le Papyrus d'Imouthès, fils de Psintaès*) names Serket for south, Behedet for north, Sekhmet for west and no deity is named for east (P. New York MMA35.9.21, col. 30 (6.ff); Parker et al. 1979: 63).

⁹⁷ These deities are not always associated exclusively with a particular cardinal point; this is dependent on the spell or text.

not always have the same deities associated with them, as the Hermopolitan myth,⁹⁸ originating in Middle Egypt in the city of Thoth, identifies the four 'sons of Horus'. These sons were protected by four goddesses, whilst they protected the organs of the deceased in the canopic jars, and the jars were usually orientated with a specific cardinal direction (Aufderheide 2003: 258; Hart 1999: 20; Lesko 1991: 94; Wilkinson 2003: 88).

There is mention in Papyrus New York 35.9.21 that the throwing of clay balls protected the tomb of the god: "Prayer (*Dw3w*) on the four balls of clay: Hail to you, protections of Re, born of him (which are) what he gave to his son Osiris, to protect him forever". In Taharqa's temple at Karnak the god Amun was protected, rather than Osiris (Parker et al. 1979: 63; Goyon 1979: 81). This is further argued by Cooney, who points out that on other monuments, as well as the Edifice of Taharqa, there is a close link between Osiris and Amun (Cooney 2000: 27). The depiction of the mound of Djeme, Osiris' burial place (Parker et al. 1979: 62), could mean that the Edifice is a form of Osireion, but the dedication of the Edifice is directed at Amun, who is the deity associated with the Decade Festival (Cooney 2000: 34). The choice of scene is likely to have been made by the king, as chief priest and maintainer of *maat* (Sheikholeslami 1995: 107).

Protecting the cardinal points from attack is a repeated theme in ancient Egyptian rituals and represented 'the concept of a balanced totality' (Hart 1990: 20). This idea is found in a variety of spells, including the Book of the Dead: "Apophis has fallen to your destruction, the southern, northern, western, and eastern gods have bound their bonds on him" (Chapter 39; Faulkner 1998: 104); "Get back, you crocodile of the West ... Get back, you crocodile of the East ... Get back, you crocodile of the South ... Get back, you crocodile of the North" (Chapter 32; Faulkner 1998: 103). The mention of Apophis and crocodiles

⁹⁸ Hermopolis was thought to be where the cosmic egg was laid. From the 18th Dynasty onwards the city of Hermopolis became associated with the god Amun-Re (Atwell 2000: 452, 455). Evidence of this myth is found in the Pyramid texts, but could be older (Lesko 1991: 94).

(which are often associated with Apophis) draws some interesting parallels with the royal execration rituals mentioned earlier. In mastabas *wedjat* eyes would be placed at all cardinal points to protect the tomb (Germond 2005: 41). Another example involves the placement of magical bricks with a protective figure at the cardinal points within a tomb, and there is evidence to suggest that the 'bricks of birth' also required four bricks to protect the mother and child from all the cardinal points (Roth and Roehrig 2002: 122, 129, 132, 134; Wegner 2009).

Apophis was also perceived to threaten the human race directly and is mentioned on an amulet to ward off poison: "If the poison goes up on high, then the Bark of Re" will founder on that spine of Apap" (P.Chester Beatty VII, r.5. 4-5; Borghouts 1994: 121). The following section will discuss how Apophis threatened people's day to day life and how the execration rituals discussed above may be related to these domestic spells.

4.3. Spells

In ancient Egypt, there are a number of spells recorded and preserved, which have been searched for references to clay balls. An attempt has been made to examine texts over a range of periods, and to use different forms of texts, in this case funerary and magical works, (no examples were found in medical texts), not only to ensure a comprehensive study of the available evidence, but also because the clay balls are themselves found throughout an extensive time period which correlates with the dates of the remaining literature. The texts searched and were found to contain references to clay balls include the Harris Papyrus of the 19th/20th Dynasty (BM. 10042 [9] rt. 6, 10-7, 1; Borghouts 1978: 87; Leitz 1999), and the Late Period Brooklyn Papyrus (p. Brooklyn 47.218.138, XIII, 14; Kousoulis 2002: 158). From the two papyri, two spells have been found detailing the use of clay balls as apotropaic devices for keeping away dangers such as crocodiles and snakes.

Spells and its associated magic, like religion, incorporates beliefs and traditions, and is known to combine ritual into its practice (Luck 1999: 96). Magic is not, however, integral to religion. As Dickie points out, definitions of magic tend to be ambiguous as scholars try to make the definition apply to all cultures and to explain what they all have in common (2001: 18). One definition is suggested by Gordon (1999: 178), who proposes that magic is 'janus-faced'; on one side it can be "religious power used illegitimately" and the other side it is used to change the world more positively. A vague definition such as this is more appropriate to use because other general definitions of magic are likely to be incorrect due to the many different forms of magic that exist and how it is perceived by different cultures. Magic exists in different forms - contact magic, which requires bodily material in order to make a spell effective (Farber 2004: 124), healing magic, revenge magic (such as the Greek and Roman curse tablets; Odgen 1999: 4, 31), and magic for protection (such as amulets; Bonner 1950: 45-94), to name but a few types. It can be used as a pseudo-science in the art of healing, much like crystal healing is used today.

The concept of Egyptian magic became personified as the god Heka, and although not worshipped directly, was invoked in magic spells (PT. 539; Dickie 2001: 22; Faulkner 2007: 206-9; Goff 1979: 25; Kees 1956: 229; Wilkinson 2003: 110). Goff argues that whilst magic itself was not new to Egypt, the spoken and ritual magic (including the use of charms) developed in the Old Kingdom alongside the beliefs of a journey to the afterlife which encompassed many forms of danger along the way (1979: 25). There is no supporting evidence for this statement, and due to the complex ideas of the afterlife which were written down in the Old Kingdom (such as in the Pyramid texts), it seems unlikely that beliefs surrounding magic would have developed at such a late date. It is more likely that these ideas developed much earlier, and were then defined and recorded during the Old Kingdom. Magic and ritual can arguably exist early in the development of a culture, for example the use of red ocre in European Neanderthal burials (Wreschner 1980), and the

inclusion tomb paintings and of large numbers of ceramics in ancient Egyptian burials (Bard 1994; Stevenson 2009: 4-5).

In ancient Egypt the differentiation between practitioners of magic and doctors is not always clear, because magicians (*ḥkꜣw*) have titles which include *sꜣw* 'protector', *wꜣb šꜥmt* 'priest of Sekhmet' and *swnw* 'healer' (Borghouts 1995: 1777, 1783-4; 1999: 157). However, *swnw* can also mean physician or 'one who treats the ailments of the upper classes' (Arnott 2004: 156; Weeks 1999: 1789). Practitioners of magic may have included priests and priestesses, particularly for the healing aspect of magic (Arnott 1999; 2004: 162; Dickie 2001: 204; Rankine 2006: 17). One professional magician had the largest collection of Middle-Kingdom texts relating to domestic issues (Borghouts 1995: 1777, 1783-4; 1999: 157). At the site of Lahun birthing wands (curves of ivory decorated with apotropaic deities and demons) and Bes masks (used for cultic practice; Weiss 2009: 201) have been discovered, and it has been suggested by David (2004: 136) that perhaps these were worn by female magicians to help protect women and children from the dangers of childbirth and infant mortality.

Amulets were another tool used in magic, and were often to provide protection, sometimes invoking a specific god by the use of their image or a symbol associated with them, for instance the *wedjat* eye with its links to the god Horus. The ancient Greeks used incantations for the production and use of an amulet, and it is entirely possible that the ancient Egyptians may have done the same (Dickie 2001: 130).

Spells were used for protection and healing, which were recorded on the magical and medical papyri, but might also have been memorised instead of recorded, so we may never know if there were others that were only passed down through oral tradition. This inevitably results in a potentially biased record of only written material; however, this will

be considered, along with the context of the text, when discussing how these spells may have been related to the clay balls.

The use of written spells would have been limited to those who could have read them, which is further enforced by phrases such as “As for the man who knows this spell” (Book of the Dead, Chapter 125), which appears in many spells, and suggests that access to this knowledge is limited (Baines 1990: 14). The persons who had access to this information are likely to have been priests, such as Djehutihotpe from El-Bersha, whose titles include nomarch, lector priest, and “keeper of the secrets of god’s words (hieroglyphs)” and “keeper of the secrets of rituals” (Baines 1990: 9). However, it is unlikely that a man with such high standing employment as a nomarch would have had the inclination or the time to administer spells to the common people battling against disease. ‘Magicians’ would have been employed for this task, which is certainly the case with one of the spells involving clay balls (P.BM. 10042 [9] rt. 6, 10-7, 1; Borghouts 1978: 87; Kousoulis 2002: 158; Nunn 1996: 120).

Only a few textual examples mention clay balls but they do not correspond with the information available about all of the artefacts. For instance, the spells do not discuss the inclusion of hair, linen, papyrus or reed into clay balls, so we cannot argue with certainty that the spells found are conclusive evidence for the use of all types of clay balls. These inclusions may, however, have been added to create a personal link with the spell, without being recorded in the written information, but was known to provide power to a spell.

It is important to consider that the preserved record of ancient Egyptian spells may not be complete, due to survival rate or the selective recording by those who wrote the spells. Thus, this section will endeavour to explore decorative elements of the clay balls instead, to determine whether there is any magical significance to these objects, and whether they have any relevance to the spells which mention clay balls. This, along with the information

provided by the spells, monumental inscriptions, and symbolisms, will aid in establishing whether the clay balls would have originally served a magical function.

Clay, as a material, may have retained its own magical properties for casting spells. Its malleable shape meant that the magician could imitate the role of the creator god Khnum, who formed humans on his potter's wheel. This would allow the magician to make a figure associated with the appropriate spell, and could also incorporate materials such as hair and saliva into the clay to link the object to the receiver of the spell (Hansen 2002: 438; Pinch 2006: 81). A specific example are the figurines of bound foreign captives made roughly out of mud and are thought to have been used as a magical way of disarming enemies (Gager 1992: 26; Pinch 2006: 94; Ritner 1997: 112-118; Shaw 2015: 46).

Blood, semen, spit, breast milk,⁹⁹ nails, and hair can all be used to drive strength to a spell, either healing or harmful, and direct it to the person from whom the donation originally came from. Examples include during the Festival of Hoeing the Earth (18th Dynasty) where the blood of Seth would be mixed with the earth to invoke fertility into the soil (Budge 1894: pl. v; Budge 1899: pl. vii; Grapow 127, 128; Naville: 7, 8, 31, 32; Wainwright 1938: 30) and breast milk is used in a number of ancient Egyptian magical/medical healing spells, including those against burns (Borghouts 1978: 24-25).

Yet, aside from hair and nails, these are all fluids which can be easily mixed or absorbed into clay, making it difficult to ascertain whether any of these substances were incorporated into the creation of the ball artefacts, unless a written spell indicates that it was (Pinch 2006: 81; Szpakowska 2009: 801, 803; Tassie 1996: 59). It is possible that the clay balls were left unfired to allow them to soak up bodily fluids, which may have been necessary to make the clay balls magically viable. These same fluids could be incorporated into the clay before firing, but firing may have destroyed the magical properties of the

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material and thus drying would be the only appropriate finishing method. Regardless, a solid lump of clay may have exploded when fired. Whether fired or not, fluids incorporated in clay would be untraceable for archaeologists, and can only be proved with textual evidence. Non-permanent material by its very definition creates a problem for archaeologists when they attempt to detect them, and the written spells which relate to these materials may not necessarily mention their inclusion, which prevents a full understanding of rituals.

The use of such materials could be necessary to connect the spell with the person who has donated (or who has had taken from them) the bodily materials. Spells using the bodily substances of a donor could be used for beneficial purposes, for instance, in the effort to heal an ailment, or as a curse. The bodily materials could have been used to target the intended receiver (Szpakowska 2008: 132). The use of these substances is to represent the person who is being targeted is a form of 'sympathetic magic', known as synecdochism (Ritner 1993: 225). Many cultures, including the ancient Greeks and the modern Punjabi Hindus, believe that anything that used to be part of one's body will always be connected with him or her, and thus a material such as a lock of hair would allow someone to hold magical power over another (Frazer 1923: 233; Leach 1967: 94; Lincoln 1977: 353; Winkler 1990: 86).

Healers often used magic spells as a way of curing a patient of an ailment, and often medical texts are similar to 'magical' texts, and often include spells (Borghouts 1995: 1777), such as in the Ebers Papyrus where the prescription originates from a deity "The beginning of remedies made by Re on his own behalf" (Ebbell 1937: 58). However, due the nature of such rituals we only have the recorded written portion of what was involved in this process. Other elements could be instrumental in the spell being effective, for example, the inclusion of music and dance like those of the Native Americans (Talamantez 1982).

Particular physical movements and materials could be required in order to make a spell viable, but without clear evidence describing these requirements, the full extent of the spells is lost to us.

4.3.1. Harris Magical Papyrus

The following spell, from the Harris Magical Papyrus (19th-20th Dynasty), comes from a collection of water spells, but it does not explicitly state what it was used for; although there is indication that the spell may have served an apotropaic purpose. The spell includes the use of clay balls, but this time they are being used as a weapon instead of representing the evil itself. This text makes references to the creation myth and is addressed directly to the sun god (Leitz 1999: 40):

The first spell of all kinds of water-songs (šḥsy.w-m-mw),

About which the magician (ḥry-tp) has said:

‘Do not reveal it to the common man - (it is) a mystery of the house of life’:

Oh egg of water and earth-spittle - the egg-shells (in<r>.t?) of the Ogdoad gods - great one in heaven, great one in the Underworld (d3.t), nestling who is prominent on the Island-of-Knives (iw dsds): it is with you that I have escaped from the water. I will emerge with you from your nest!

I am Min of Coptos, I am Min, the lord of the land of Coptos!

This spell is to be said <over> a clay egg. To be given into the hand of a man at the prow of a boat. If something on the water surfaces, <it> should be thrown upon the water.

(P.BM. 10042 [9] rt. 6, 10-7, 1; Borghouts 1978: 87¹⁰⁰)

¹⁰⁰ Another of Borghouts’ translations of this text is available in Leitz, C. 1999. *Magical and Medical Papyri of the New Kingdom*. (British Museum Press: London). For an original copy of this papyrus see Appendix 6.

The first sentence categorises that the spell is specifically for water and that a magician is the suitable person to perform this spell. Spells like this one were considered defensive and magicians were required to fight off evil or a disease. The initial instructions indicate that the spell must not be revealed to the common man, and near the end of the spell it requires a clay egg to be thrown into the water. Both of these aspects are contrary to the available material evidence, which indicates that in many cases the clay balls have been found in normal 18th Dynasty homes or in Old Kingdom and New Kingdom tombs, and are not specifically close to a river or water mass.

It is possible that a magician, or priest, performed the spell on the clay egg and then gave or sold the magically induced item to the consumer, who may have then stored the artefact at home, or indeed in their tomb, until the magic was required, much like an amulet. Priests of Serket and the god Heka were considered to be magicians and were known to recite spells (Nunn 1996: 120). The clay ball would then be thrown into the water, as indicated by the spell, and be presumably destroyed. Again this could explain why the surviving number of artefacts is limited.

The material of the egg is comprised of both water and 'earth-spittle', which is another name for mud or clay (Borghouts 1978: 111) based on the Myth of Isis where she mixes the spit of Ra with the earth to form a serpent (Papyrus Turin 1993; Papyrus Chester Beatty 11; Ostrakon Petrie 7; Ostrakon Deir el-Medina; Queen's College Oxford 1116; McDowell 1999: 118). Combined these could be referring to a form of clay, and may actually be describing the material of the clay egg which is thrown later in the spell. This spell has been included, because even though it refers to a clay egg rather than a clay ball, the egg shape could be interpreted in different ways. Generally an egg is perceived to be oval, and is the case with the majority of egg laying creatures, but there are some species of birds and snakes which produce spherical eggs (Gaietto 2014: 75; Website 4 and 5). Furthermore, in

ancient Egyptian texts the sun god Ra is referred to as being born from an egg (one example can be seen in Coffin Text 335; Faulkner 2007a: 261), and is shown in imagery as emerging from a circular or disc shaped object, which may have represented his egg, and has additional links to the brooding balls of the dung beetle (see Chapter 5 for a more detailed discussion). Thus, throwing the clay balls may have been a way of invoking Ra's powers of protection.

Further to this, it could be argued that the shape of the clay balls is a practical adjustment made by the producer, to increase the accuracy of the clay ball once it is thrown. An egg shape would not have made an effective missile as it would be difficult to throw with accuracy as the weight and balance would be affected by its uneven shape, making it an unsuccessful weapon.

Thoth, in his ibis form, is the head of the Ogdoad (a group of eight non-specific deities) and was thought to have been born from a mythical egg. The falcon god, Horus, is also described as being created in the egg: "I have moulded the shape of the god within the egg as my son" (CT148: Faulkner 2004: 125), as is the king in the *Instructions for King Merykara*: "a ruler in the egg" (Papyrus Hermitage 1116A, verso, lines 131-138; Quirke 2004: 119). The present king would strengthen and justify his right to rule through his reinforced close connection between Horus, the first king of Egypt.

The god Min is directly referred to in this spell, and is the earlier name of the sun gods Amun and Ra (McFarlane 1995: 253). In one version of the creation myths Amun is born from an egg; examples of this can be found in Papyrus Leiden I 350 "who knit his fluid together with his body to bring about his egg in isolation" and Coffin Text 80 "when he rises every day and emerges from his egg, when the god is born in the emergence of sunlight" (Allen 1988: 21-24, 49). This is supported by the reference to the 'Island of Knives', otherwise known as the 'Island of Flame', which mythologically was the place where the

sun god was born (Coffin Text 317; Borghouts 1978: 111; Sayed Abbas 2010: 50-51). Another spell which refers to the 'Island of Flame' directly names Ra as the god born there: "Oh Re there, king of heaven who enters the underworld, who makes life instead of death on the Island of Flame, who comes forth as a great one who came into being by himself" (Borghouts 1978: 28-29).

If the shape of the clay egg was spherical to make it a more effective missile, then this spell could indicate that the clay balls may have been used as a defensive weapon against a hidden enemy in the water's depths, most likely crocodiles or hippopotami.¹⁰¹ Leitz directly refers to the danger in the spell as being a crocodile "In this incantation the speaker seeks to protect himself from crocodiles, by stating that he emerged from the waters at creation as a companion of the sun-god", but unfortunately he does not explain if this came directly from the translation, or whether this is his own interpretation (1999: 39). This assumption is likely to be correct, however, as crocodiles has the ability to hide underwater without humans being aware that they were there (Naydler 1996: 244).

Both crocodiles and hippopotami were dangerous to humans living in the Nile at this time. They were sometimes associated with evil entities such as Apophis and the negative aspects of the god Seth (Griffiths 1970: 199; Houlihan 1996: 121; Kemboly 2010: 277; Osborn and Osbornová 1998: 146; Pinch 2002: 106).¹⁰² It should be noted that these animals were also worshipped in some situations, for crocodiles were associated with deities such as Sobek and were depicted as apotropaic characters (Phillips 1998: 851) nonetheless, because this spell is defensive, it is likely that the negative aspects of these creatures is the focus.

¹⁰¹ This only applies to the male hippopotami, who would ruin crops and as a consequence were seen as against creation and thus the embodiment of Seth (Germond 2005: 33).

¹⁰² Contrary to this, Seth is also portrayed in a positive light, for instance in Coffin Text 160 he is described as defending the sun god instead of opposing him (Borghouts 1973: 115; Faulkner 2004: 138).

Crocodiles were a realistic threat to ancient Egyptians, especially to those who lived in close proximity to the creatures along the Nile, to the extent that amulets were used to protect them from such dangers. For example, an amulet found in Memphis shows a boy caught in the jaws of a crocodile (Petrie 1972: 48, Pl. XLI, 240k). If a person died from a crocodile attack, it was unlikely that the family would be able to retrieve the body for burial (Pinch 2002: 126), which needed to be preserved to allow the spirit to re-enter it in the afterlife (Ikram 2003: 23; Taylor 2001: 16).

As a consequence, the crocodile also became associated with a number of evil entities, including the Crocodiles of the Four Directions, who were adversaries of the four *bas*¹⁰³ of the sun god, and had to be avoided by the dead in their progression to the afterlife (Chapter 32 in *Book of the Dead*; Faulkner 2008: 101; Naydler 1996: 246-247; Pinch 2002: 127). This draws interesting comparisons with the 'striking of the ball' ritual where clay balls represented the cardinal points were smashed by the king, in order to defeat Apophis and maintain *maat* (Kousoulis 2002: 154-5; Borghouts 1973: 137).

Alternatively, the spell from the Harris Papyrus could be symbolic of the cosmic struggle; the invocation of the sun god as Min could suggest that the enemy residing in the water is the entity Apophis (who has been interpreted as a water snake) as he attacks the bark of Ra and is sometimes coloured blue, the colour of the underworld (Morenz 2004: 203; Piankoff 1949: 136, Pl. 8; Rankine 2006: 76). Conversely the colour blue is also sometimes used to represent the heavens (Rankine 2006: 76).

As yet, there are no depictions found on the clay balls of hippopotami (the other dangerous Nile creature). There is an example of a seal impression of a crocodile (ball no. 108 - 18th Dynasty) and on another clay ball there is an inscribed image of a crocodile alongside two

¹⁰³ The *bas* of the sun god were mentioned in the Book of Day and Night, where they protect the sun god from different directions (Žabkar 1968: 28; Piankoff 1942: 3, 84).

figures fighting (ball no. 76 - 3rd Dynasty). These balls are prior to the date of the spell found on the Harris Magical Papyrus, but the danger of crocodiles would have existed throughout human occupation along the Nile, and no doubt a variety of spells existed to protect from this threat before a written example appeared.

Accompanying the inscribed crocodile is the phrase *htm* meaning 'to make a contract' or 'to seal'. This may refer to a contract made with the magician to provide the purchaser with a magic infused clay balls. However, the phrase may refer to the spell being sealed when the inscription was written, making the clay ball magically charged and ready to use, or alternatively the spell may only have been 'sealed' once the clay ball had been thrown and the magic invoked.

Yet, with only two examples of crocodiles on clay balls there is not enough evidence to support the theory that this spell details the function of the artefact. This can not be explained by the lack of survival, as there are other flora and fauna depicted on the clay balls. Particularly, as the other fauna depicted on the clay balls were not necessarily associated with evil; discussed below. However, it is also possible that the spell was used for general protection, not just for use on boats, and the seal impressions and inscribed images on the clay balls may serve to identify the owner of the clay ball, or to serve as amuletic symbols.

Whether this weapon served to ward off the evil that the animals represented or to physically battle the creatures themselves is not clear, but it seems likely that the latter would have been practically ineffective when armed only with an unbaked clay ball. A spear, for instance, would have been much more effective at physically killing a dangerous animal; thus the only conclusion we can draw from this is that a fragile clay ball must have been used as a symbolic deterrent against potential dangers, instead of an effective weapon.

4.3.2. Snake Spells and the Corpses of Napata

The 'striking of the ball' ritual, the throwing of the balls ritual depicted on the Edifice at Taharqa and the similar ritual identified on several papyri and temple walls all relate to the pharaoh, invoke protection for the king, or are used to show him overcoming enemies, in addition to all referring to clay balls. At times, Apophis appeared in the form of a snake as an enemy of the sun god and the king, and is described or shown being decapitated the feline form of Amun (Book of the Dead of Ani, spell 17, British Museum; Tomb of Inherkha (TT359); Faulkner 1998: pl. 10; Malek 1993: 83-85, 87). It is likely that the use of balls could be reflections of a domestic ritual, and a way of defending the country from the threat of Apophis in both the physical and spiritual realms.

There were over 30 deities that took the form of a serpent (Germond 2005: 31), perhaps out of reverence for the creatures or for protection against their poison. Spell 34 in the Book of the Dead is inscribed upon snake headed amulets to use as protection against snake bites (Papyrus of Nu; EA10477; Quirke 2013: 107).¹⁰⁴ Situated at the edge of the desert the semi-literate residents of Deir el-Medina were particularly exposed to the dangers of snakes, and as a consequence we have surviving medical treatises for snake bites (pDeir el-Medina I, vs; pDeir el-Medina 36; Borghouts 1999: 164). Snakes would have been a realistic threat to an ancient Egyptian home; thus, it is not surprising to discover that Egyptians had spells to try and deter the danger.

It is possible that a royal ritual could have pre-existed as a domestic ritual initially to be adapted to suit higher powers at a later stage. An apotropaic spell from the 12th- 13th Dynasty (1833-1745 BC) (Hayes 1972: 15) Brooklyn Papyrus 47.218.138, XIII, 14-16 involved the throwing of clay balls to protect against snakes (a form which Apophis takes):

¹⁰⁴ Spell 34: "Formula for preventing... from being bit9ten by a snake in the gods land. He says: Rising cobra! I am the flame shining from the forehead of millions" (Quirke 2013: 107).

'Another formula for closing the mouth of all the ḏdfi-snake(s). Recitation upon [four] balls of clay. To be thrown to the south, north, west (and) east, Recite this spell tied as a papyrus roll, (and) place it at his neck, so that it will save him from the disaster in the water and on earth. See, it is a great protection in truth.'
(Kousoulis 2002: 158).

Once again we see the reiteration of the need to protect someone from all the cardinal directions, in addition to 'in the water and on earth'. The clay balls mentioned in this spell do not require the need for the spell to be written on them, but the spell to be spoken over them. The mention of papyrus in the spell may provide an explanation for the inclusion of papyrus in ball no. 26. The use of papyrus in this way is not specific to this spell, for example the oracular amuletic decrees, which were small rolls of papyrus worn around the neck (Borghouts 1994: 126; 1995: 1783), and it is possible that the papyrus present in ball no. 26 and 27 may have provided written evidence of this spell. If the artefacts are connected, the seal impressions may have served to support the meaning of the spell, which assisted to protect him whether he was on the earth (land snakes), or the water (water snakes); both forms are considered to be associated with Apophis (CT 414; Kemboly 2010: 276; Morenz 2004: 203). Furthermore, the spell reinforces the idea that clay balls may have been used as a form of apotropaic defence.

A further example of an execration ritual involving balls can be found at Edfu from the fourteenth day festival of Behdet:

'To know the interpretation of the trampling of the fish. They are the enemies who are in the water. As for these balls, they are the corpses of Napata. As for these gby.w-geese who are in these nets, they are the souls of the dead. As for these fans of dom-palm, they are their hair.' (Ritner 1993: 210).

In this example the balls are referred to as an enemy of Egypt (Napata). As Ritner observes, the mention of both balls, although the material is not specified, and metaphorical hair in this ritual could provide a link with the clay balls found with hair inside them (1993: 210). As the balls with hair are discovered in homes and not in temple complexes (Group Li and ii; Appendix 2), it is important to understand whether there is any connection between these rituals and the balls on which this study focuses. Consequently, it is essential to discuss whether it was possible that this ritual would have been known and practised by “everyday” people. If it was, then this could explain its presence in homes and tombs as an apotropaic weapon.

4.4. Designs on clay balls supporting the Execration theory

This section will explore how the decorative designs on the clay balls support the theory that the artefacts are related to an execration ritual. These additions include *wedjats*, *nefer*, the name of the goddess Serket, and images of scorpions, which all have a link to protection, and thus could suggest that the clay balls served as an amulet as part of an execration ritual.

Amuletic designs can add an apotropaic power to an object, such as a piece of jewellery; thus making that piece of jewellery an amulet in addition to its original function, which has its decorative use (amongst other purposes). Theoretically, the amulets’ symbolism would have been understood to the extent that it could operate without the need for spells as well (Borghouts 1995: 1775). The amuletic symbols and words found on the clay balls will be critically examined to determine if they were placed to give the objects apotropaic powers.

Amulets in the form of magical symbols or creatures were also used to carry magical protection to protect its wearer (David 2004: 135). Yet, without a direct reference in the

spell to the needed materials or actions we can only guess what other processes may have been used. Evidence from the archaeological record shows that they were worn by all levels of society, in the form of jewellery, hair ornaments, and included in a deceased's mummy wrappings for protection in the afterlife (Germond 2005: 11, 17; Website 1, 2, 3). Amulets had many forms and could sometimes be given as a votive offering to a deity, along with other offerings including food, floral displays and animal sacrifices.

The amulets often took symbolic forms or hieroglyphic symbols, such as the *ankh* meaning life (*Wb* I, 193), that were taken from mythological stories of the gods, such as the *wedjat* eye for healing, which represented the healed eye of Horus (treated by Hathor and the milk of a gazelle) after it was damaged by Seth (Andrews 1994: 43; Lichtheim 2006: 219; Priskin 2002: 75; Sherkova 1998: 1061, 1064; Stevens 2006: 73). These symbols would have been commonly understood by the ancient Egyptians. These amuletic signs were also decorated on clay balls, for instance *wedjat* eyes, *nefer* (beautiful), *r* and *ankhs* appear on nine of the clay balls (ball nos 8, 38-43, 57b, 60). Therefore, a discussion of these symbols and their amuletic use will be included in this thesis, in combination with their potential relevance to clay balls' functions.

Other symbolic themes will be drawn out from the execration texts (mentioned above) in an attempt to understand various elements of the clay balls: the animal symbolism for example. When discussing symbolism and artefacts in ancient Egypt, as one would with any other ancient or modern society, it is imperative to understand the role that artefacts played in the communication process, in order to comprehend their symbolic and cultural meaning. This allows archaeologists to develop theories about ancient behaviour, and as a consequence they will ask appropriate questions in order to understand the artefact's contribution to ancient Egyptian culture (Schiffer 1999: 200).

4.4.1. *Wedjat* Eyes, *nefer* and *R* (Type E)

All of the clay balls displaying *wedjat* (Horus) eyes and *nefer* hieroglyphs (literally meaning ‘beautiful’) seal impressions have been excavated from Amarna and dated to the 18th Dynasty (ball nos. 57b and 60). Two of the three balls with only *wedjat* eyes impressed have known contexts. Ball no. 43 was found inside a home in the main city and ball no. 41 was found in a ‘bedroom’ in the workmen’s village (Figure 57; Fairman 1933: 108; Stevens 2006: 14). This indicates that these may have been used for protection in the home or perhaps while someone slept. The current museum location of all of the clay balls with only *wedjat* eyes are unknown; and have no photographs associated with them and must therefore rely on the information provided in the excavation reports and finds cards.



Figure 57: Image of ball no. 41 from finds card (Courtesy of the Egypt Exploration Society)

According to the Amarna database¹⁰⁵ and Stevens (2006: 114), ball no. 42 (impressed with just *wedjat* eyes) and possibly ball no. 43 are published in Fairman’s *City of Akhenaten II* (1933: 108, pl. LVII.BC). No further information is available for ball no. 43 and, since only ball no. 42 is directly referred to in *City of Akhenaten II*, this is the one which will be discussed. Based on the images supplied in Fairman’s publication, and assuming the information provided is accurate, seven *wedjat* eyes were stamped in a consistent pattern around the diameter of the entire ball (Figure 58). This pattern may have been to induce the protective powers of a circle associated with the *wedjat* eye (Sherkova 1998: 1064). Conversely, this systematic approach to decorating could suggest the importance of where

¹⁰⁵ www.amarnaproject.com accessed 26th September 2012.

the stamp was placed and to ensure an even coverage, however there are a few clay balls which are stamped ubiquitously (ball nos. 1, 8, 9, 19, 49, 115 and 116), perhaps to protect the clay ball from all angles. This would indicate that the placement of the impressions were not prescribed, and could indicate the stylistic preference of the person who impressed it.



Figure 58: Ball no. 42 (Fairman 1933: pl. LVII.BC)

The following discussion concerns the seal impressions found upon the outside of the clay balls in Group E; the designs include *wedjat* eyes, *nefer* and *r* hieroglyphs. *Wedjat* eyes, otherwise known as the Eye of Horus, represent the specific feather patterns seen on a falcon's cheek (Petrie 1972: 9). This referred to the god Horus, who took the form of a falcon or falcon headed man¹⁰⁶ (Hornblower 1932: 271; Porada 1992: 494; Wilkinson 2003: 202), and the *wedjat* represented his healed eye. The *wedjat* eye is also representative of the moon, and its different phases were interpreted as Horus' eye being wounded during his battle with Seth and healing itself again (Germond 2005: 41).

Wedjat eyes (Andrews 1994: 43; Stevens 2006: 73) were commonly used as protective amulets (Andrews 1994: 43) from the Old Kingdom up until the Roman period (Stevens 2006: 73) and are often seen depicted on magical artefacts related to physical health, fertility and protection (Germond 2005: 41; Stevens 2006: 282). Amulets such as these were primarily placed upon the evisceration wound of the deceased (Ikram 1998: 142;

¹⁰⁶ A falcon could also be interpreted as the king, who became a falcon on his death (Germond 2005: 34).

Pinch 2002: 132), to heal the wound and prevent any evil forces from entering it (Andrews 1994: 43). *Wedjat* eyes could also be painted onto coffins to allow the deceased to see (Pinch 2002: 131; David 2002: 169). Sometimes in mastabas four *wedjats* are found at the four cardinal points for comprehensive protection (Germond 2005: 41). This protection of the four cardinal points is a principal aspect of the throwing of the ball ritual and thus could prove a link between the ritual and the balls with *wedjat* eyes.

The presence of the *wedjat* eyes on the clay balls could suggest that this form of clay ball (Group E) could have served an amuletic function in life or death, but presently all of the balls from Group E have only been excavated from domestic contexts. When two *wedjat* eyes are represented together, they signify the two eyes of Horus or are associated with the gods Re and Thoth, one eye is considered to represent the sun and the other eye the moon (Abdalla 1991: 190-1; Darnell 1997: 35; Goebis 1998: 448, 451, 453; Gwyn Griffiths 1976: 153; Petrie 1972: 32; Priskin 2002: 77; Stevens 2006: 73).

In addition to simple *wedjat* eye designs, two other clay balls also display the *nefer* hieroglyphic sign, often in a symmetrical design. Balls nos. 57b and 60 (Figure 59) both display three *nefer* signs between two *wedjat* eyes (Figure 60 is a comparable seal impression). Both of these clay balls were found in the same house from the North Suburb of Amarna. *Nefer* can mean 'beauty' or 'excellence' (Wb II, 253; Petrie 1972: 14; Faulkner 1964: 131) and symbolised goodness and wellbeing (Stevens 2006: 70). The sign *nefer* was thought to represent the heart and the windpipe, similar to the *ib* sign for heart (Petrie 1972: 14).¹⁰⁷ Amulets shaped like this also have been interpreted as being a symbol of power, rather than with a literal meaning (Petrie 1972: 14), which highlights that the interpretation of hieroglyphs can be varied and not set in stone.

¹⁰⁷ This interpretation stems from Horapollo (II.4; 1993: 73).

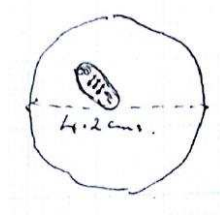


Figure 59: Ball 60 (29/243; Courtesy of the Egypt Exploration Society)



Figure 60: Seal impression of *nefer*, *wedjat* and *r*. (Petrie 1925: Pl X)

Further to the *wedjat* and *nefer* signs, the phonetic sign for *r*, depicted as a mouth (Wb II, 386), can be found additionally on the design for the seal impression present on ball nos. 8 (Figure 61), 38 (Figure 62), and 43. The impressions appear to go around the diameter of ball no. 8 (as they do on ball no. 43) displaying a design which consists of two central *nefer* signs, flanked by a *wedjat* eye and a *r* symbol on either side (the same design is found on ball no. 38). Similar examples are often found on seal designs (Figures 60 and 63).



Figure 61: Ball 8 (6730)

Photograph: A. Hammett
(Courtesy of Manchester Museum)

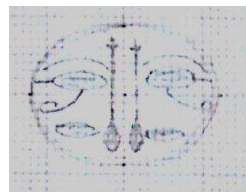


Figure 62: Ball No. 38 (22/536)

(Image courtesy of the Egypt Exploration Society)



Figure 63: Another Seal impression of *nefer*, *wedjat* and *r* (Petrie 1925: Pl. XVI)

4.4.2. Spiral patterns

An s-shaped spiral can be seen between two *nefer* hieroglyphs on the ten impressed seals found on ball no. 9 (Figure 64). Like the other balls possessing impressions of either *nefer* hieroglyphs or s-shaped spirals, this ball is from Amarna and dated to the 18th Dynasty. Ball no. 48 (Figure 65) was also found at Amarna, with a more precise provenance, and is recorded as having been excavated from a house (Stevens 2006: 114).



Figure 64: Ball no. 9 (7961)

Photograph: A.Hammett (Courtesy of Manchester Museum)



Figure 65: Ball no. 48 (24/49)

(Image courtesy of the Egypt Exploration Society)

S-shaped spirals were very common on stamp seals from ancient Egypt and were used as a decorative element, rather than it possessing any phonetic or literal value (Shaw 1970: 26). Spirals never became a hieroglyph, and the Egyptians never refer to the meaning of the symbol. Although there are many theories on their meaning, none are conclusive (Petrie

1925: 12). The symbol is usually found with one of the three following signs: *nefer* meaning 'beautiful' (*Wb* II, 258-259), *ankh* meaning 'life' (*Wb* I, 193), or the decorative lily (Petrie 1925: 12). All of these symbols are impressed upon the clay balls. However, these are not shown displayed in conjunction with spirals.

Petrie finds that spirals are most commonly found accompanied by *nefer* signs and argues that this association could mean that the spiral could signify *nefer*, meaning 'beautiful' or 'fine'. For this reason, Petrie suggests that the spiral pattern was used by the living to demonstrate beauty and, in addition, served a magical purpose in preventing bad things occurring to the beautiful one (1925: 12). The evidence for this theory is somewhat limited at present and, until more research has been conducted on the meaning of spirals, it is difficult to reach a conclusive theory about the presence of such patterns on artefacts like the clay balls. Its regular accompaniment, with other amuletic designs, however, means it needs to be addressed in this section.

4.4.3. Serket

Ball no. 35 (Figure 66), dated to the Late Period, has written on it the name of the goddess Serket in cursive hieroglyphs in either black ink, (made from carbon (Lee and Quirke 2000: 108) or paint.¹⁰⁸ The writing has clearly been brushed on, most likely with a rush pen, which was commonly used in ancient Egypt for writing cursive hieroglyphs (Menci 2003: 397-8; Parkinson and Quirke 1995: 32). Determining the level of literacy is not a simple question as different levels of understanding would have existed depending on a person's employment or trade, such as administrators who would have needed to understand numeracy as well (Pinarello 2015: 118-20). At the site of Deir el-Bahari the level of literacy was much higher than the rest of the country because the village contained a high proportion of semi-

¹⁰⁸ This has been read by Professor Stephen Quirke according to an email response (Stevenson, 2013).

literate skilled tradesman (Haring 2015: 133, 134, 141). Nonetheless, it is equally possible that an illiterate producer or owner of this ball could have copied the name from another prototype or the word written on a piece of ostrakon or papyrus. The meaning of the words may not have been understood, and their use could have been entirely decorative.



Figure 66: Ball No. 35 (61432). Photograph: A.Hammett (Courtesy of Petrie Museum)

The scorpion goddess Serket is frequently depicted as a woman with a scorpion on her head or with a scorpion's body and a head of a woman, and was invoked to repel scorpions and snakes. She is sometimes depicted as a non-poisonous form of water scorpion (Pinch 2002: 189; Spieser 2001: 251-2). As one of the seven goddesses associated with the *wedjat* eye, Serket's name can be found singularly on a square *wedjat* eye amulet, or mentioned with the other six goddesses on one *wedjat* eye shaped amulet (Petrie 1972: 34). In the Coffin Texts she is mentioned as one of the deities who stands guard on the river into the Afterlife (Spell 1069; Faulkner 2004: 143). Known as "She Who Causes the Throat to Breathe"¹⁰⁹ (Houlihan 1996: 187; Nunn 1996: 101), Serket would assist in the rebirth of the dead, enabling the deceased to breathe again. She was also one of the goddesses who protected the east side of the coffin and canopic chest filled with the deceased's organs (Pinch 2002: 189). This is famously seen on Tutankhamun's canopic chest (Carter 2000: Pl. VIII). She is also known to protect the tomb itself (Petrie 1972: 50).

¹⁰⁹ Feminine of *sereq* (Wb IV, 204).

The provenance and findspot of this artefact are completely unknown to us preventing a thorough examination of the significance of this object. Without a known findspot we are unable to determine whether this was found at one of Serket's cult centres or a shrine dedicated to the goddess, and without details of provenance we cannot determine for certain whether this was used at the home as an apotropaic device, or as an offering left at a temple, or invoking her funerary role in protecting the body of the deceased.

4.4.4. Scorpions

Ball no. 49 has been identified as possessing a seal which depicts a scorpion with a flower. The scorpion can easily be identified (see Figure 67). This is not the harmless water scorpion which is commonly associated with goddess Serket (Pinch 2002: 189), as the stinger is visible at the end of this scorpion's tail (circled in Figure 67). The poisons are painful and can kill children and weak adults (Houlihan 1996: 185). Yet, establishing the species of flower (Figure 68) which accompanies the scorpion is difficult and it is not entirely clear that the image depicted is floral. Similar to many of the clay balls, the seal impressions found on ball no. 49 are sporadically pressed over the surface. The number of seal impressions present are approximately 15-18.



Figure 67: Ball no. 49. (Photograph: A.Hammett; Courtesy of the British Museum)

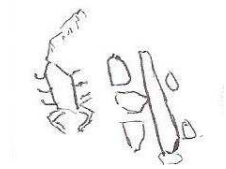


Figure 68: Drawing of the seal impression of ball no. 49

It was excavated from house Q45.35 at Amarna (18th Dynasty), suggesting the apotropaic function of this ball to ward off the poisonous scorpions, which could have easily wandered into peoples' homes. Other finds from this house do not assist in our understanding of the artefact: they consist of everyday objects such as a vessel, weaving tool, and jewellery (Amarna Small Finds Database).

Scorpion motifs can be connected to the king's power, such as the one found in front of the king on the Scorpion Macehead (AN1896-1908.E3632; Wilkinson 2000: 25).¹¹⁰ Alternatively, such a seal could have been indicative of the owner of the seal, whose name or marking may have been represented by such symbols. The identification of the 'flower' could help establish which of these theories could be the correct for this clay ball, as different species of flora held different symbolisms. For instance, papyrus represented Lower Egypt and the lily Upper Egypt (Hepper 1990: 11, 16). Unfortunately, the illegibility of the impression prevents identification from being made or from being certain that the image is of a flower.

Scorpion shaped amulets appear as early as the 5th Dynasty to as late as the Ptolemaic period as protection against the creature's poisonous stings (Andrews 1994: 36). The occurrence of scorpion stings were high in ancient Egypt (Pinch 2002: 36), proven by the existence of many Late Dynastic texts and *cippi* spells (Andrews 1994: 36; Bohleke 1997: 164; Nunn 2002: 107-110; see for example BM EA36250 and PGM VII; also seen in the medical texts BM EA 9997 and BM EA 10309; Leitz 1999: 3-4), and would cause the victim

¹¹⁰ There is a debate as to whether this particular king was actually called Scorpion.
<http://www.ashmolean.org/ash/fags/q005/q005005.php>. Accessed (2/1/2017).

to have “burning pain and shortness of breath”, which could lead to death for the young and old. As a consequence, scorpions were viewed as not only a risk to mortals, but a danger to the cosmic order, and magic was needed to defeat them (Pinch 2002: 189). This can be supported by a spell which indicates that the scorpion was the sister of Apophis (PTurin 1993, 13, vs. 4, 1-4; Borghouts 1978: 78).

There are a number of magical texts which attempt to ward off scorpions and heal their stings, often invoking either the scorpion goddess Serket e.g. “It is Selqis that has said it. It is she that has repeated it” [PTurin 1993, 13, vs. 4, 1-4; Borghouts 1978: 79] or the goddess Isis for example, “The one who has been bitten is healed for his mother, like Horus rose up, healed for his mother Isis in the night when he was bitten” [PTurin 1993, 10, vs. 2, 6-3, 6; Borghouts 1978: 75]. A myth involving Isis closely associates her with the healing of scorpion stings and, as a consequence, is more commonly invoked for this ailment. The myths tell us that, whilst fleeing from her brother Seth, Isis disguises herself and is protected by seven scorpions. She attempts to seek refuge in a village where the goddess is denied a place to stay by a woman who is fearful of scorpions. The seven scorpions become enraged and poison the woman’s son in revenge. In spite of the woman’s uncharitable nature, Isis takes pity on woman’s son and heals him from the deadly sting (Metternich Stela; Nunn 1996: 108; Pinch 2002: 189-190). The existence of a scorpion impression on one of the clay balls could suggest that this may have served the same apotropaic function as scorpion shaped amulets.

4.5. Another form of offering to the gods

Offerings were made in ancient Egypt to deities, living kings, deceased kings and ancestors in order to invoke their power. On a greater scale, offerings were made to deities or kings, who communicated with the gods to maintain cosmic order and peace, but on a smaller

scale, lesser offerings would be made to request assistance for problems in everyday life, such as the growth of crops, fertility, love, theft, and wealth. Animals were frequently associated with particular deities and, although this was banned under the reign of Akhenaten, the practice was likely to have continued (Forman and Quirke 1996: 123-4). However, in this section we shall explore the decorative elements of the clay balls, which emphasises that they could have been a type of offering. From this it will be determined if these offerings have a connection to the execration rituals mentioned in previous sections.

4.5.1. Bovidae

Ball no. 71 found in a 'bedroom' in Amarna is a clay ball with a creature impressed upon it (Figure 69). It is important to note that the drawings on the registration card, the only information available for this ball, may not be correct; proportions may be inaccurately recorded due to the inexperience of the recorder. This could potentially result in a slightly longer neck or a shorter tail than the original impression of the creature. Such discrepancies can cause vast differences in interpretations: see, for instance, Newberry's (Figure 70, top) and Lepsius' (Figure 70, bottom) drawings of the same hunting scene -from the tomb of Chnemhotep at Beni Hasan. Consequently, any interpretations based upon an incorrect depiction could create large discrepancies in the analysis of the clay balls, as the following discussion will highlight.

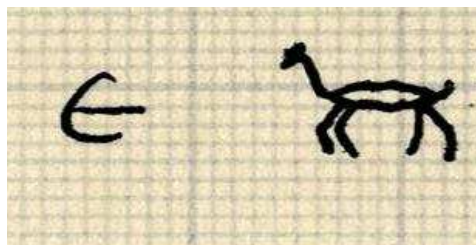


Figure 69: Ball No. 71 (22/158e; Courtesy of the Egypt Exploration Society)

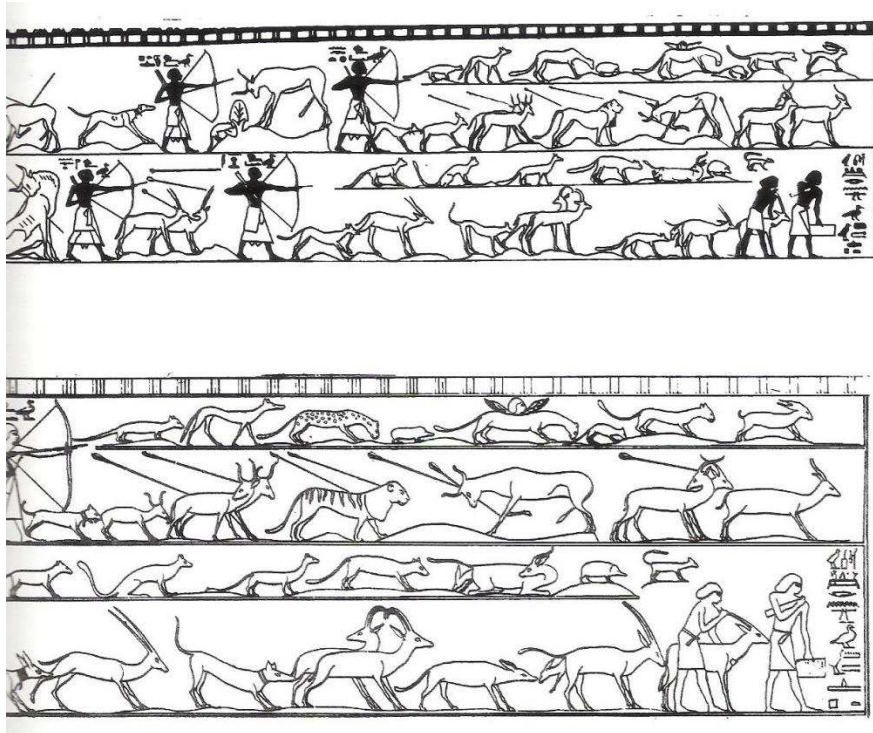


Figure 70: Differences observed in the record (Osborn and Osbornova 1998: 15)

John Wyatt, an expert in ancient Egyptian fauna, has remarked on the little care taken by archaeologists to ensure that their drawings are accurate, which has resulted in mistakes in identification by scholars working from these drawings, rather than the original ancient Egyptian depictions of the animals.¹¹¹

The current unknown location of ball no. 71 makes it impossible to check the drawing, and thus any attempts at identification must remain theoretical at this stage, but additionally needs to be discussed due to the categorisation made by previous scholars. It has been suggested that the impression might be of a gazelle (Stevens 2006: 114; Amarna Project, 2012), but when one looks closely at the illustration provided on the registration card the creature drawn upon it has a much longer neck than the average gazelle (Figure 69). Assuming the drawing is to an extent correct, it is possible that the impression portrays a giraffe rather than a gazelle. Gazelles' necks are substantially shorter and thicker than the

¹¹¹ J. Wyatt 2013, personal communication.

one depicted (Figure 71). On top of the head in the impression there are what appear to be two raised lumps, which could portray ears or small horns, but if the proportions are correct, the more likely explanation is that these portray the small horns of the giraffe, which were covered with skin and hair. A third lump can also be found on the giraffes' forehead (Alden et al. 2012: 454; Osborn and Osbornova 1998: 150-151; Kingdon 2004: 208-9), which could explain the lump on the forehead of the creature on the finds card (Figure 69).

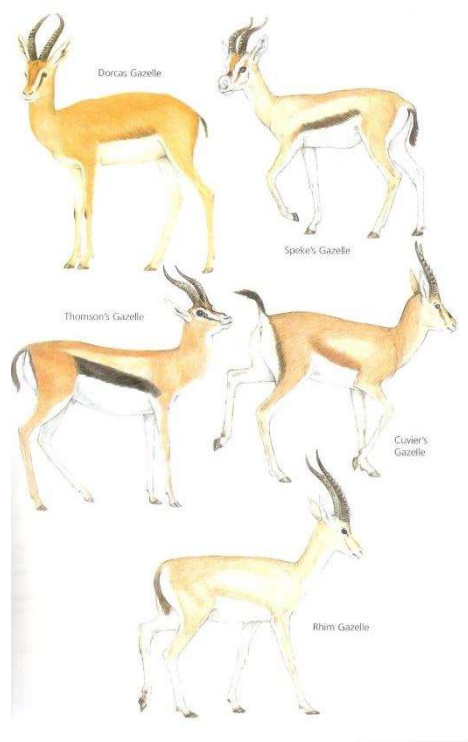


Figure 71: Gazelle species (Kingdon 2004: 239)

A similar depiction can be found on a rock drawing from Wadi Sabah Regala of Gebel Silsila (Figure 72; Petrie 1900: 75, Figure 57; Osborn and Osbornova 1998: 152). This has been identified as an ostrich by Petrie (1900: 75), but is clearly a long four-legged creature and is most likely a depiction of a giraffe like those accompanying it. It is unusual, however, to find a depiction of a giraffe this late, which were common during the Predynastic period,

but by the Fifth dynasty their numbers had significantly dwindled (Houlihan 1996: 198). A more recent study has suggested that giraffes may have even been extinct by the Dynastic period (Yeakel et al. 2014).



Figure 72: Rock drawing from Wadi Sabah Regala of Gebel Silsila (Petrie 1900: 75, Fig. 57)

Alternatively the long neck evident in this drawing (Figure 69) could represent the female Dibatag *Ammodorcas clarkei* (male Dibatag shown in Figure 73) or the female Gerenuk *Litocranius walleri* (Figure 74), which are two species of gazelle with long necks and short tails, and both species' females are hornless (Alden et al. 2012: 475-476; Kingdon 2004: 242) suggesting that perhaps the lumps on the head are ears. Interestingly, the Gerenuk is also referred to as the *giraffengazelle*, the giraffe gazelle, due to its long neck and similar eating habits to the much larger animal (Kingdon 2007: 418). Another alternative is that this drawing could be a depiction of a juvenile male of these species, which could explain the extra bump as the horns which have not yet grown.¹¹² Previous scholarship on the symbolism of gazelles in ancient Egypt is often limited to the genus as a whole and not to each individual species.

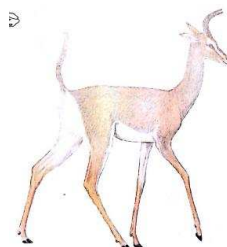


Figure 73: *Ammodorcas clarkei* (Kingdon 2007: 417)

¹¹² J. Wyatt, 2014, personal communication.

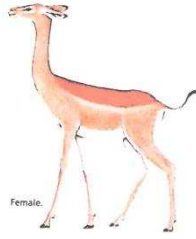


Figure 74: *Litocranius walleri* (Kingdon 2007: 418)

The ancient Egyptians did take care to depict the different species of the animals they portrayed, and some are shown with obvious differences. Gazelles are frequently depicted on seals, and on other forms of art, but it is not always clear which species is being portrayed. Gazelles, in general, feature regularly in ancient Egyptian art, often featuring in hunting scenes and in scenes in which they appear to be domesticated, such as one scene at Beni Hasan, which shows them within fences and being force fed (Newberry 1891: Pl. XXVII, XXX). At Matmar a range of different size gazelle horns were found suggesting that they were either kept in a form of domestication or hunted and butchered for meat (Flores 2003: 54-56). Gazelle amulets have been interpreted as signifying food offerings (Petrie 1972: 20) and there are also occasions where gazelles are found buried either as a funerary gift or what is thought to be the burial of a much treasured pet (Flores 2003: 56; Verde 1980: 81). The goddess Anuket, who is depicted as a young woman wearing a feather headdress, has the gazelle as her sacred animal.

The ancient Egyptians admired the beauty of the creature, using its image to embellish a variety of artefacts (Houlihan 1996: 110; Pinch 2002: 186; Wilkinson 2003: 138), and as animals able to survive the harsh desert environment they were associated with afterlife (Hornung 1990: 165). Another goddess, Hathor, uses the milk of a gazelle, in order to restore the eyes of Horus (Lichtheim 2006: 219), suggesting that the milk was perceived as having healing properties. From this brief overview of the ancient Egyptian interaction with

gazelles it seems that the creatures were highly thought of and its image could have been used on seal impressions to relate them to offerings, to associate them with a particular goddess, or to be used aesthetically.

Other long necked animals present in ancient Egyptian art include the mythical serpopard, which was depicted with the body and head of a panther and the long neck of a snake, as seen on the Predynastic Hierakonpolis palette (Osborn and Osbornova 1998: 2-3).¹¹³ This is unlikely to be what is impressed on ball no. 71, as the legs of the serpopard are significantly shorter with claws, and the head does not appear to have a feline form.

Ball no. 7 has previously been recorded as having a 'blurred impressions', but when the image of the seal impression is enlarged with good light it is possible to see the shape of a running or striding animal (Figure 75 and 76). The shape of the head and the horns attached are clear, and when compared to ancient Egyptian depictions of animals it bears a striking resemblance to the scimitar oryx, as seen in the Tomb of Khety (Newberry 1894: Pl. XIV).¹¹⁴ The species of the Bovid family are identified using the horns of each species, which vary extensively. In the case of this seal impression the animal possesses medium size horns, like that of the scimitar oryx (*Oryx dammah*), as opposed to the beisa oryx (*Oryx beisa*) (Figure 77, which has longer and straighter horns (Osborn and Osbornova 1998: 163; Kingdon 2004: 254), or the slender-horned gazelle, which possesses much shorter horns (Osborn and Osbornova 1988: 177). The proportions of the horns in comparison with the body of the scimitar oryx do not only match those found in ancient Egyptian depictions, but also those in modern day species (Kingdon 2004: 254-5). In addition, the oryx possesses a much stockier body with a rounder rump and thicker legs than the gazelle, which further confirms that it is an oryx depicted on ball no. 7.

¹¹³ Currently at the Ashmolean Museum, Oxford.

¹¹⁴ Species identified in this tomb by Osborn & Osbornova (1998: 163).



Figure 75: Ball No. 7 (6729). Photograph: A.Hammett (Courtesy of Manchester Museum)



*Figure 76: Highlighted animal impressed on ball no. 7.
Photograph: A.Hammett (Courtesy of Manchester Museum)*

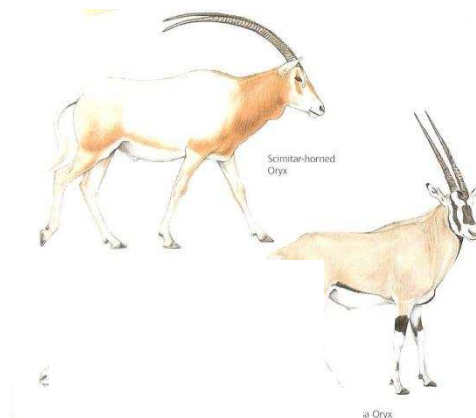


Figure 77: Species of Oryx (Kingdon 2004: 255)

Representations of the scimitar oryx can be found as early as the Predynastic period (Houlihan 1996: 45) and were regularly depicted in the Dynastic period as part of faunal displays (Houlihan 1996: 46). The presence of the oryx in ancient Egyptian depictions is explained by their appearance in hunting scenes, where they are shown alongside other members of the bovid family being chased by dogs and shot by hunters with bows and

arrows. These animals were not necessarily killed, however, because some depictions show the animals being captured alive and kept for meat or as sacrifices to the gods or the deceased (Houlihan 1996: 44). In the tomb of the 11th Dynasty nomarch Baket III at Beni Hasan a variety of animals are shown being force fed within fences (Newberry 1893: Pl. XXX) suggesting a form of domestication. Although there is some debate as to whether these animals were fully domesticated, there are depictions of scimitar oryx with young under the care of a keeper, which could suggest that at least captive breeding of the species was achieved (Houlihan 1996: 44).

During the Middle Kingdom the oryx were associated with solar protection and were viewed in a positive light, but eventually the oryx became associated with Seth and Apophis (Germond 1989: 53-4; 2005: 31). This was due to Seth's connection with the desert, which was the natural habitat of the creature (Houlihan 1996: 48; Pinch 2002: 192), and was thus interpreted as an enemy of the sun god. The polar opposite of gazelle's who were associated with the goddess Anuket and were kept as pets. Horapollon states that oryx were used to depict impurity as it howls at the moon goddess and 'tears up the earth and fixes its eyes upon it, as if it were in violent anger and did not wish to see the goddess rise' (1993: 65). As a result, the oryx became an example of ritual sacrifice, and was used as a funerary offering (Germond 1989: 53; 2005: 31). Ramesses III had oryx offered to the god Ra every feast day (Breasted 1962: 138; Houlihan 1996: 48), and, according to the Papyrus Harris, he gave 367 oryx to temples throughout Egypt (Breasted 1962: 196). This would explain why it became a popular sacrifice and why they were frequently depicted being defeated by the god Horus on *cippi* (for example, EA36250 in the British Museum), otherwise known as magical stelae, which were used as apotropaic devices (Houlihan 1996: 48). As an enemy of Horus, the killing of an oryx would have helped bring the universe to order and prevent chaos.

Oryx frequently appear on seals (see Figure 78 and 79), but the direct meaning of them is not known. The oryx, unlike the gazelle, had many negative connotations attached to it, but the use of both of the creatures as a form of offering could link these ball no. 71 and 74. The cost of offering a creature like an oryx or gazelle would have probably been too expensive for most people; the seal impression on a clay ball could have been an affordable symbolic substitute version of such an offering.

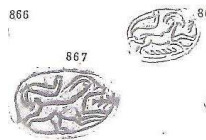


Figure 78: Seal impression of Oryx (Petrie 1925: XIV)



Figure 79: Another seal impression of Oryx (Petrie 1925: XVIII)

Establishing the possible species depicted on ball nos. 7 and 71 is crucial for their interpretation, particularly as the species recognised on these seal impressions were perceived differently by the ancient Egyptians, but unfortunately the drawing on the registration card is not clear. The gerenuk, the subspecies of gazelle seen on ball no. 71, was considered a beautiful animal, associated with the goddess Anuket, whereas the scimitar oryx, seen on ball no. 7, was considered to be an evil being and was hunted. There is one important similarity between the two species which could explain why they are both present on examples of the clay balls, which is that they were both offered as sacrificial offerings to the gods.

5. Conclusion

Execration rituals possess an apotropaic element, but take it a step further by the physical destruction of evil, rather than simply repelling it. The 'striking of the ball' ritual and the throwing of the balls ritual provided the evidence for the clay balls being used in execration rituals to defend the sun god from evil forces. If the clay balls were used in a similar fashion, then this could explain the relatively small number of clay balls that are currently found. However, the monumental nature of these rituals makes it unlikely that ordinary people would have partaken in such a rite. The spells from the Harris Magical Papyrus (P.BM. 10042) and the Brooklyn papyrus (p. Brooklyn 47.218.138) creates a link to the wider population, and shows that these rituals may have been used originally as an apotropaic defence against the physical dangers which threatened an ancient Egyptian in everyday life, possibly invoking the powers of the king to protect them. These spells also imply the use and destruction of the clay balls.

Not all spells were used for a positive impact on society, some were used to seek revenge or inflict pain on another person. Cultures, like ancient Greece, defend or attack an enemy with the writing of spells on curse tablets (Gager 1992: 26). In Egypt, when wanting to destroy Apophis a magician would make a figure out of wax with the entities name on and then proceed to burn it. Execration rituals like this were used in a variety of ways in order to overcome enemies and protect oneself from harm. The ritual of the smashing of the red pots was used in a funerary context to scare away enemies or to destroy them (Pyramid Text 23 and 244; Gager 1992: 26; Pritchard 1969: 328-9).

Degradable materials used in other forms of execration rituals such as hair, papyrus and wood are not archaeologically traceable (although these survive better in the dry environment of Egypt), and as a consequence many of the remains of these rituals are clay objects (Muhlestein 2008: 1-2). From this evidence we could support the theory that the

clay balls served as an execration ritual for there is evidence in both the monumental texts and in the domestic spells that the clay balls were used either to represent evil or to defend against it. It would explain the lack of balls found in the archaeological record and would explain the variety of materials found within them.

The recurring theme of clay balls in execration rituals and in spells could show a progression and development of a belief in the importance of rituals involving spheres (Table 9). This development is particularly clear on the monumental inscriptions starting with the New Kingdom depictions of the striking of the ball ritual, which is defensive of the sun god and adoring of the goddess. This ritual seems to disappear until the Graeco-Roman period, but when it reoccurs the vocabulary has changed to an aggressive tone. In both examples, however, the clay ball is used to represent the evil eye of Apophis and its destruction is clearly required as part of the ritual. The Corpses of Napata text, found at Edfu, also describes the use of balls to represent evil; in this case they represent Napata, enemies of Egypt.

Ritual	Date	Ball is a weapon or symbolised evil?
Brooklyn Papyrus	Middle Kingdom	Weapon
Striking of the ball	New Kingdom	Evil
Harris Magical Papyrus	19th-20th Dynasty	Weapon
Throwing of the ball	25th Dynasty	Weapon
Corpses of Napata	Graeco-Roman	Evil
Striking of the ball	Graeco-Roman	Evil

Table 9: How clay balls are portrayed in execration rituals

The throwing of the clay balls ritual (25th Dynasty) chronologically fits in between the New Kingdom and Graeco-Roman examples of the ‘striking of the ball’ ritual. In this example the clay balls are thrown to the cardinal points to defend against any evils approaching the tomb of Amun; here the clay ball is a weapon *against* evil instead of representing evil itself. This also occurs in the late New Kingdom Harris Magical Papyrus, where a clay egg is

thrown to defend against an unknown foe in the water, possibly a crocodile or a hippopotamus (both associated with Apophis). The same can be seen in the Middle Kingdom Brooklyn papyrus where clay is used to defend against snakes.

I would argue that, although there are certainly similarities between the throwing of the clay balls ritual and the 'striking of the ball' ritual, the principal use of the clay ball is completely different. It seems more logical that the clay balls served as an apotropaic weapon, due to the amuletic symbols and the names of the kings and deities to invoke their protection). They could have been kept in homes to deter regular dangers like snakes, but then when required the clay balls could have been thrown. Perhaps clay balls were selected for rituals as they are an easily made, versatile object which did not serve only one function.

There is differentiation in the interpretation of the clay balls, but not necessarily between those which are monumental texts, and those found on papyri which were used by the general population through a magician. To what extent lay persons would understand or care about the maintenance of the cosmos is hard to judge, but they would certainly care about avoiding the everyday dangers which threatened their lives. To the ancient Egyptians this would include snakes, scorpions, hippopotami, and crocodiles - all of which could kill a human easily, and were also associated with Apophis. Thus, the Harris Magical Papyrus and Brooklyn Papyrus, which mention these creatures, would have defended against these natural enemies, and similarly, the later monumental example of the throwing of the balls ritual would have defended against the 'greater' threat of Apophis.

The function of Types B-I and K could be explained by the spells, but the spells do not contain the further details required to support this theory for all the balls, for the spells do not mention the inclusion of hair, papyrus, reed or linen (Types A, J, L and M). Neither do they detail the necessity for the impression of seals on the clay balls' surface. However,

these additions may have been made by the owners or givers of the clay balls, who wished to personalise and strengthen the power of the spell. The discovery of a protective uraeus “entangled in a mass of hair” could support this theory, particularly as spells associated with uraei do not mention a requirement of hair either (Ritner 1993: 223-4). There is only one example of a clay ball (ball no. 110)¹¹⁵ being found at a site which also holds depictions of the “striking of the ball” ritual.

Ritual is enforced by the repeated use of specific material objects, such as the clay balls, and by the production of particular movements and sounds, such as the throwing and smashing of the balls. Using these specific actions and objects would help maintain order with the ritual itself and limits its alteration over time. The incorporation of other cultures and religions would inevitably cause some modifications, but there would be large spaces of time in-between these (Briault 2010: 294) For instance, the differences between the striking of the balls rituals from the New Kingdom and the Graeco-Roman period are that the latter are primarily more aggressive tone to the text, but otherwise the majority of the ritual is the same.

The repetitive nature of rituals is a conscious decision in an attempt to limit how much a practice is changed (Briault 2010: 293), but, as Grimes accurately observes, “Rites are events; they have lifespans. Only secondarily do they reside in texts, scenarios, scripts, or rubrics. Thinking of them as unchanging is a half-truth. They are not artifacts. They are not structures in the sense that a building is a structure ... A ritual structure, like a ritual text, is a residue” (1995: 62). It is inevitable that through the length of time that ancient Egypt existed, and with the influx of different cultures and ideas, their rituals did develop and change. Religious ideas would have undoubtedly progressed as ideas of religion were debated and changed.

¹¹⁵ Found at Dendera in an offering niche but exact location is not clear.

The use life of this artefact could have altered through time, and may have represented different things to different receivers of the artefact. For instance, a clay ball in a tomb may have been to aid in the cosmic struggle and aid the deceased safely into the afterlife, whereas the keeping of a clay ball in a home may have protected against more general, everyday dangers, such as poisonous snakes and scorpions. Alternatively, they may have represented a more general function, such as a votive offering, which could be supported by the use of seals, which could name the person who has presented the offering, and wishes to invoke the god.

In opposition to the possibility of the clay balls being part of an execration ritual, there are other ways the clay balls could have served an apotropaic purpose, by acting as an amulet to protect against evil forces. The depiction of amuletic symbols on the clay balls include the *wedjat* eye, and the name of Serket, a protective goddess. The other seal impressions and decoration present, which do not fit into this category (such as the faunal designs), may have served to represent an offering, as will be discussed in chapters 5 and 6.

CHAPTER 5 - CLAY BALLS AS A RITE OF PASSAGE

5.1. Introduction

Rites of passage are transition rituals which are culturally expected to transform someone symbolically between different phases of life, change in social position (progression or regression), or an identity change. Rites of separation often apply to the different phases of life, such as birth, puberty, marriage and death (Verhoeven 2011: 118). This progression of age often corresponds with a change in social position, for instance birth rituals welcome a new life as a valid member of the community and once someone enters puberty they often are considered an adult with all the rights and privileges of other community members. In ancient Greece, three year old boys could act as potential members of the adult community during the festival *Anthestria* on the *Choes* day (Ham 1999: 209) and children did not have the honour of being cremated until they had teethed (Pliny the Elder, *NH* 7.72; Neils, Oakley, and Hart 2003: 176). Identity changes can be established for officials of religious orders to bring about the end of a previous identity, or a Muslim who partakes in the *hajj* to become a respected *hajji* (Fowler 2011: 141, 145; Gilchrist 1994: 18-19).

Rites of Passage by Van Gennep (1960) is the most recognised work on rites of passage and is important to research in both anthropology and archaeology, as it determined different types of rites of passage, whether it be a rite of separation, transition, or incorporation. Although Van Gennep suggests these categories he does also state that it can be difficult to classify a ritual as they often can fall into more than one category and stresses the need to understand that it is not rigid classification (1960: 11). His work is thorough and many scholars have used his approach to understand rites of passage, and in some cases his theories are developed, such as Turner (1967).

The purpose of rites of passage, according to van Gennep, is 'to ensure a change in condition or a passage from one magico-religious or secular group to another' (1960: 11).

On a more basic level these rites allow a community to deal with the changes which occur in society and those that affect a person directly (e.g. their own ageing) (Rappaport 1999: 91). These rites would further offer protection for those travelling through a potentially dangerous transition in their life.

Driver states convincingly that 'rites of passage are performed not simply to mark transitions but to effect them' (1998: 93) and they 'conducted persons through a nothingness, a temporary loss of identity in a time that was no time and a place that was nowhere' (1998: 157). Van Gennep breaks down the rites into a tripartite structure involving rites of separation, liminality and reaggregation (1960: 191-2).

The rituals involved with these rites frequently involve changes to the body, which could represent a particular stage of life, or change in social position. Activities such as fasting (Dietler 2011: 187-188), hair cutting, change of costume (Barlow 1995: 100), circumcision (Lutkehaus 1995: 16, 29 n. 11, Schmidt 2004: 263), tattooing (Wilson-Fall 2014),¹¹⁶ scarification (Hauser- Schäublin 1995: 36; Gewertz 1998: 287, 292; Lutkehaus 1995: 18), sacrifice (Porter Poole 1998: 118-119) and object destruction (van Gennep 2011: 60). Objects can contain parts of the body such as hair or fingernails, or bodily fluids as part of body modification, and thus the destruction of the object is believed to affect the person who the bodily materials belong to. As a consequence, the hair found in the clay balls may reflect this form of ritual. However, identifying rites of passage in the archaeological record is particularly problematic. The likelihood is that we often have the depositional evidence for a rite of passage, but without prior knowledge for a ritual we are unaware that this is what the material reflects.

¹¹⁶ Tattooing in the Maori cultures portrays the events of the wearer's life and proves their strength (Gorre 2007: 4-5).

Artefacts themselves have history before, during and after deposition, but archaeologists tend to focus on post-depositional practice, and, if verbal, this history would be difficult for an archaeologist to uncover (Thomas 1999: 80). This is particularly the case when attempting to ascertain whether the clay balls may have served a function in fertility rituals because the practice of domestic religion was not recorded in text, unlike the state religion practised in temples (Baines 1990: 1, 6, 7; Shafer 2005: 21- 28). Herodotus and Diodorus both record a late Egyptian ritual which requires a child's hair to be cut and then weighed against silver to make the appropriate offering to a deity, and an anthropological example from the fellahin of modern Egypt, which encompasses childrens' hair inside a ball of clay, will be discussed, not only to understand the use of hair in rites of passage, but also to investigate whether these examples might explain the function of the clay balls.

There is no explicit reference to rites of passage in the ancient Egyptian artistic or textual record, but there is the implication of the sidelock of youth representing the social status of children and the suggestion that its removal, during the tying of the fillet ritual, signified a transition to adulthood. Other examples from other ancient cultures, as well as modern ones, will be explored to consider why hair cutting was an appropriate action for such rites. The modern Egyptian example of hair being cut from a child and then being encased in a clay ball will be discussed in the attempt to seek its significance and connection to the ancient examples.

The ancient Egyptian understanding of the sun god's birth and rebirth may also insinuate a rite of passage. Further to this, the sun god's morning form as a dung beetle implies a comparable symbolism with the clay balls, particularly due to the material and decorations present with the artefacts, in conjunction with the phrase "opening of the ball" found in the 12th hour of the *Book of Night*.

Artefacts are often the only remains of an ancient ritual, such as rites of passage, particularly when there is no visual or textual reference to inform an archaeologist of the inference of the object. The minute details, therefore, are unknown to us, and many rituals are lost. By comparing other ancient cultures' views of rites of passage and exploring modern ethnographic examples help us to gain an insight into the inner psychological human need for ritual for progression between life phases. Then assessing the ancient Egyptians' perception of the materials and symbols which make up the clay balls can provide the necessary details for determining whether the artefacts may have served as a physical element of a ritual connected to a rite of passage.

5.2. Fertility and Birth in Ancient Egypt

The ancient Egyptians believed that human and agricultural fertility were integral to their religion and life. These references to fertility are, however, abstract as there is no definitive term in the ancient Egyptian language for 'fertility'. There are words to denote a lack of fertility, such as *ind* (infertility of women) and *mhs* (infertility of men), and there are numerous gods whose roles are related to aspects of fertility. For instance, the god of the inundation Hapy, and Nepri the god of corn, indicate that there existed a concept of fertility, even if no word survives for it (Houlihan 2005: 516). Rites of passage, particularly those regarding young children reaching significant stages of life, often incorporate ideas of fertility. The fear surrounding the dangers which children face in their formative years are linked by two thought patterns 1) lack of parental control on all aspects of a child's life 2) the pressure on women to provide a healthy offspring. Fertility's essential role in ensuring safe delivery of life could hold substantial meaning for any rites of passage that were required after birth or rebirth.

Birth, although an important life event, is in many cultures not the most significant rite of passage, with coming of age, marriage and death taking precedence (Grimes 2000: 16). When birth rites occur these do not just recognise the birth of the child, but also establish their place within the community, identify the parents, praise motherhood, and expedite an exchange of gifts (Grimes 2000: 42).

Cutting hair as a rite of passage would not be unusual in either ancient or modern cultures: Punjabi Hindu boys from birth do not cut their hair until their day of tonsure (meaning shaving of the head) arrives, and after a period of letting the hair grow matted, the hair is cut from his head and is made as an offering to a deity (Hershman 1974: 276, 287). During the Chudakarma, the rite of first tonsure in India, the head of a Brahmin child is shaved except for one lock which is combed and knotted at the end, and retained for the rest of the child's life. The hair which is cut, to remove pollution from birth, is placed with a shoot of the sacred Kuśa grass, mixed with bull dung and then buried in the earth so that it cannot be used for evil magic (Leach 1967: 94; Lincoln 1977: 353). For ancient Greek boys within a year of being born an offering of a lock of hair was made as part of the *Apatouria* ritual, where a father proclaimed his child legitimate and welcomed him to his clan (Herodotus I, 147; Plato *Timaeus*: 216; Golden 1990: 27, 122). Wilken believes that head hair is considered the 'seat of the soul' and thus hair cuttings are appropriate substitutions for human sacrifice (Leach 1967: 82).

Roman children, after the initial ritual of being accepted into the family by their father, would be a participant in a festival, which would involve naming the child and a *dies lustricus* (a purification rite) would be conducted. The boys would be presented with a *bulla*, a pendant which represented their freebirth (it is not known whether girls also received this), and the children would also receive a *toga praetexta* (a toga with a purple stripe), which would provide them with protection when they were not near their family

(Suet. *Nero* 6; Plutarch *QR*101; Harlow and Laurence 2002: 39-40; Larsson Loven 2012: 145; Rawson 1996: 27-8).

Birth and the days immediately following it were the most dangerous times of a child's life, so it is of no surprise that the majority of cultures maintained birth rites in order to provide their children with symbolic protection. Strabo and Diodorus Siculus mention that the Egyptians valued all their children and were not known for committing infanticide (Filer 1998: 393). Ancient Egyptian children's names, such as 'Inaros', which means 'may the eye of Horus be against them', act as an apotropaic measure to protect the child (Bohleke 1997: 164-165; Ranke 1935: 42, no. 11). There are numerous connections between birth and the clay balls, including the possibility that they served as an apotropaic device.

Ball no. 1 has eight oval stamp seals impressed over its surface in no particular pattern with a white slip coating the entire ball (Figure 80). There are a number of fingerprints pressed upon the surface of the ball. However, these appear to be a result of the production process (fingerprints are unavoidable when touching wet clay), rather than a decorative display. It is known that this ball was found in the area of the main city and the north palace of Amarna; yet, the exact provenance of this artefact is unknown.



Figure 80: Ball no. 1. Courtesy of Bolton Museum.

The seal impressions on the object require discussion, and the museum currently holding it identifies the design incorrectly. Bolton Museum's database entry for the seal on this clay ball is described as follows: "Oval 4 looped cross with intermediate curliques at top and


bottom. 2 *ti* hieroglyphs either side of a possible *h**tm* hieroglyph. Bottom *ti* is inverted so that it mirrors the top”. The seal has also been compared by the museum to one illustrated in Petrie’s *Buttons and Design Scarabs* (1925: PL IX, no 368; Figure 81). However, from the photographs of ball no. 1 (Figure 80) the hieroglyph present on the seal is clearly the sign *ms* ,¹¹⁷ and certainly holds no resemblance to the seal found in Petrie’s *Buttons and Design Scarabs* (1925). There is the possibility that there are other seals which cannot be seen in the publication, *Akhenaton et Nefertiti, Soleil et ombres des pharaons* (Calmettes 2008), nor in photographs provided by the museum. I have sought permission to see the seals or to view photographs taken from other angles to determine whether this is case. However, due to a restructuring of Bolton Museum’s Egyptology department at present,¹¹⁸ this has not yet been possible.



Figure 81: Seal Impression (Petrie 1925: PL IX, no 368)

The possibility of the symbol meaning literally what it represents, the three fox skins (Gardiner code F31), could indicate a number of different things possibly related to hunting. The ancient Egyptian view of foxes is not likely to have been a positive one. Although primarily they fed through scavenging, foxes occasionally took to hunting livestock, which is likely to have made them unpopular with the Egyptian farmers. Sticks, spells and dogs were used to keep the foxes away; they were not a direct threat to Egyptians, unlike crocodiles, but their interaction with dogs could pass the rabies disease to humans (Dixon 1989: 196-7). An alternative theory, posed by Brind Morrow, is that the *ms*

¹¹⁷ Gardiner sign list: F31

¹¹⁸ C. Routledge 2013, personal communication, 27th July.

sign actually represents a plant which has been tied together in a garland to “mark a place, occasion, or dwelling in which a birth takes place” (2015: 69), which could be supported by the word *ms* meaning “floral offering” (Wilson 1997: 458).

The sign for *ms* impressed upon ball no. 1 and the phonogram is found in the word “truly” and a number of words associated with childbirth, such as *ms* “to be created”, *msj* “give birth, bear”, *ms* “child, offspring”, *mswt* “birth” (*Wb* II, 138; Faulkner 1964: 116; Allen 2001: 460). This consequently may have had a connection to rebirth, which was considered to be a form of birth with the tomb acting as a womb. In some cases the sign *ms* takes the place of the hieroglyphic determinative of a woman giving birth in the word *mrj* (Faulkner 1964: 166; Fischer 1972a: 11). When attempting to determine whether the clay balls may have served a function related to rites of passage or aspects of fertility, the meaning of this word is highly evocative for this theory.

The determinative is a hieroglyph which adds “semantic information to the final signified of the otherwise complete word” (Goldwasser 1999: 49). An iconic determinative can indicate the direct meaning of the word preceding it. Taxonomic determinatives relate to a sign which is associated with the category that the word belongs to, and schematic determinatives are signs that encompass themes belonging to that category (Goldwasser 1999: 53). Different words are sometimes spelt the same way, but a determinative accompanying a word can define a difference in meaning. For instance, the word *hnn* can mean both ‘deer’ and ‘attend to’. However, the determinatives of a deer head, or a human head make it possible to classify the correct meaning of the word when reading it (Faulkner 1964: 159).¹¹⁹ Without the presence of a determinative it is impossible to conclude the meaning of the *ms* on the clay ball.

¹¹⁹ Not present in *Worterbuch der Aegyptischen Sprache* (Ranke and Erman).

A word using only the sign *ms*, with no other accompanying hieroglyphics or determinatives, however, is not found in the hieroglyphic dictionaries by Erman and Grapow (1926-1961), Hannig (1995; 2006), Faulkner (1964), Lesko (1984; 1987) or Wilson (1997). Commonly *ms* is followed by the phonogram symbol for *s* as a phonetic complement, the use of which is not entirely necessary for the spelling of a word, but is commonly seen in Egyptian script. These complementary signs possessing the same phonetic value as the first symbol can be omitted (Allen 2001: 26), for example, *mwt* can be used instead of *mwt.ti*. Some symbols were omitted for aesthetic reasons also, as a shorter spelling can appear neater (Gardiner 1957: 52-53).

The verb '*ms*' was also used to denote that a new statue had been created, in effect, that statue had been born (Faulkner 1962: 116; Roth 1992: 146). Seal impressions, like those on the clay balls, were sometimes made with seals in the shape of scarabs. The scarab shape has an individual meaning; as a word it is transliterated as *hpr* and translated as meaning 'to be', 'to create' or 'to become' (Wb III, 260-5; Faulkner 1962: 188-189; Ward 1902: 6). This meaning is worth considering when ascertaining the interpretation of the seal, as the symbolism may be related to the word *ms*, and furthermore, may connect the word to the concept of birth.

If the provenance of this artefact was known, this may provide further evidence as to what the meaning of *ms* is in this case. For example, if the clay ball was found within a birthing chamber of the home, it would be reasonable to suggest that the interpretation of *ms* could be related to childbirth. Whereas those found in a tomb may refer to one's rebirth; since the tomb acted as a womb for the deceased to allow the man or woman to be reborn. The appearance of the symbol on pottery (Figure 82) seems to act as 'potters' mark' (Kelly 1976: Pl. 80.2), but whether this is a name or a symbol is not certain. It is worth considering whether in fact the potter's mark is to indicate the creation of the pot itself,

much like the word *ms* being used to indicate the creation of a statue. The statues and pots may have been considered to be born, much like a baby is created in the womb, which may also link it with the idea that a woman's womb was a vessel (Derchain 1965a: 145; 1965b: pl. 9; Frandsen 2007: 100-102). Similarly, the clay ball may have *ms* impressed upon it to mark its creation.

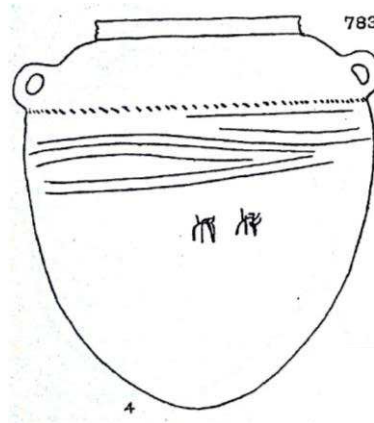


Figure 82: Potter's Mark (Kelly 1976: Pl 80.2)

In some cultures rites of passage existed for protection in birth or to protect children in their early years of life: the transitional phase could have been based on the principle of an infant surviving the first few years of its life, and the rite of passage indicates its progression from infancy into childhood; the age of which is not universal and is usually defined by the person's culture. This ritual may have taken place when the infant showed signs of becoming a child: physically, by gaining its milk teeth¹²⁰ or by taking its first steps; orally by speaking its first words, or when the family thought it best or could afford it. The modern Punjabi accept a child into their family after their first haircut, the Chinese have a ritual called the "cutting of the cords of his feet" when the child starts to walk (van Gennep 1960: 55), and the ancient Romans had several stages of childhood, including the loss of

¹²⁰ The Turkish have a celebration involving wheat to protect children ritually as they go through the pain of teething and to recognise them officially as a member of the family (Saritas 2011).

milk teeth at the approximate age of seven (Solon *Censorinus* 14.3; Baker forthcoming; Golden 1990: 21).

The modern Fellahin (peasants) of Egypt, both Christians and Muslims (predominately the latter), cut the hair of their children at a young age, usually boys, placed the hair within a ball of clay which were then sun-baked before being made as an offering to a saint or sheikh. Their villages consisted on flat roofed houses with a burial for a sheikh in the centre, for whom the villagers would light candles for on a Thursday evening, and would actively participate in magic (Blackman 1927: 21, 25, 27, 28, 183-200).

According to the anthropological report of Winifred Blackman, the offering is made to give thanks for the birth and survival of a son (1925: 65-67; 1927: 84-87); Blackman supplied images of the tufted hair of the fellahin children, which were then cut off (Figure 83; 1925: 66, Plate E). Blackman draws upon the practice of the Fellahin as an explanation for the function of the clay balls (1923); however, there are a number of issues which present themselves when one tries to apply and compare this ritual to ancient examples from Egypt. Primarily, Egypt's culture has been influenced and infiltrated by a number of different cultures over the last 3000 years (including Greek, Roman and Arab invasions) making it difficult to identify which civilization the Fellahin ritual truly belongs to. However, offering hair for the protection of children is not something exclusive to the modern Fellahin, as described in previous examples (McGilvray 1994: 50).



Figure 83: A fellahin boy (Blackman 1925: Plate E)

In this anthropological example, this ritual is not specific to one religion in this anthropological example, because it is practised by Muslims and Christians alike. This ritual seems to be isolated to Egypt indicating that the ritual is culturally, rather than religiously based. However, the second issue is the anthropological accuracy of this report as we are not aware of the methodology used by Blackman to acquire the information, and the Fellahin that she spoke to may have given her biased information based on the questions she asked. Unfortunately, I have been unable to find any recent anthropological work on this ritual to determine the accuracy of this report.

Hesitation to accept these anthropological parallels to ancient Egypt can be overcome by the representations of a form of sidelock (Figure 84) which resemble modern African hairstyles (Fletcher 1995a: 198, 293), such as those seen in the Himba tribe in Namibia (Figure 85). The placement of the tufts of hair in this example are unusual for ancient Egypt, but they do present a plausible connection to the tufts of hair found on the modern Fellahin which may indicate that these may have been cut off the child at a similar point.



Figure 84: Ostracon Sketch of a boy, Deir el-Medina. (Ox.Ash.1938.914)

(Fletcher 1995b: 832)

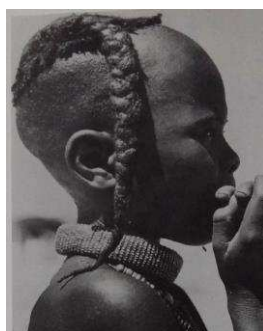


Figure 85: Himba boy with sidelock (Sieber and Herreman 2000: 86, Fig. 50)

The ancient writers Herodotus¹²¹ and Diodorus¹²² similarly report the shaving of children as part of an offering towards a god. They both describe how an Egyptian would visit a sacred animal, make a vow to the god which the animal belongs to, and then shave the head, or part of the head, of their child (Herodotus II, 65; Diodorus I, 83). According to the ritual described by Herodotus and Diodorus, the cut hair would then be weighed against silver, and thus the appropriate weight of the metal would be given to a keeper, who would then use it to buy food for the god's animals (Herodotus II, 65; Godley 1960: 353; Diodorus I, 83; Oldfather 2004: 283). Tassie argues that this may have been the occasion when children gained their sidelock for the first time (1996: 62). The sidelock, as exhibited by many child gods such as Harpocrates, would be a singular lock of hair hanging from the side of the head (Bonnet 2000: 273; Burton 1972: 240; Erman and Ranke 1923: 244ff).

¹²¹ 'Townsmen in each place, when they pay their vows, make prayer to the god to whom the animal is dedicated, shaving the whole or the half or the third part of their children's heads, and weighing the hair in a balance against a sum of silver; then whatever be the weight in silver of the hair is given to the female guardian of the creatures, who buys fish with it, cuts them up and feeds them therewith. Thus is food provided for them' (Herodotus II, 65; Godley 1960: 353).

οἱ δὲ ἐν τῇσι πόλεσι ἕκαστοι εὐχὰς τάσδεσφι ἀποτελέουσι: εὐχόμενοι τῷ θεῷ τοῦ ἂν ἦ τὸ θηρίον, ξυρῶντες τῶν παιδίων ἢ πᾶσαν τὴν κεφαλὴν ἢ τὸ ἥμισυ ἢ τὸ τρίτον μέρος τῆς κεφαλῆς, ἰστᾶσι σταθμῷ πρὸς ἀργύριον τὰς τρίχας: τὸ δ' ἂν ἐλκύσῃ, τοῦτο τῇ μελεδωνῷ τῶν θηρίων διδοῖ, ἢ δὲ ἀντ' αὐτοῦ τὰ μνουσα ἰχθυὺς παρέχει βορὴν τοῖσι θηρίοις. (Herodotus II, 65).

¹²² 'The Egyptians make vows to certain gods on behalf of their children who have been delivered from an illness, in which case they shave off their hair and weigh it against silver or gold, and then give the money to the attendants of the animals mentioned' (Diodorus I, 83; Oldfather 2004: 283). ξυρήσαντες γὰρ τὰς τρίχας καὶ πρὸς ἀργύριον ἢ χρυσίον στήσαντες διδόασιν τὸ νόμισμα τοῖς ἐπιμελομένοις τῶν προειρημένων ζώων. (Diodorus I, 83-).

Herodotus (c. 485- c. 425 BC) claimed to have obtained his information for his *Histories* by speaking directly with Egyptian priests, and supports this claim by listing royal names which occur on a papyrus roll which was shown to him. Whether Herodotus actually travelled to Egypt is debated;¹²³ however, it is believed that he may have received information from other Greek travellers, rather than Egyptians directly (Moyer 2014: 2, 3). Therefore, it is worth considering that his account on the hair cutting ritual from Egypt's Late Period (664-332 BC) may be second hand and, thus, it could be inaccurate. Diodorus Siculus, on the other hand, was known to have visited Egypt at the end of the Ptolemaic period of Egypt (332-30 BC), but he is also known to have relied on other authors' accounts, including Herodotus, to write his history (Moyer 2014: 5-6). The authors had travelled to Egypt, and even if they had encountered this ritual first hand, it is possible that such a custom only took place in a particular region, or indeed in this particular time frame, as opposed to having been conducted across Egypt throughout its history.

Furthermore, Herodotus and Diodorus were also writing at a much later date to the 18th Dynasty when the majority of the clay balls found from ancient Egypt are dated to, but scholars, such as Tassie (1996) and Ikram (2003), believe that the hair cutting may be a later, more developed version of the original ball ritual. There are obviously some distinct differences between the ritual which Herodotus and Diodorus describe and what we know about the clay balls; there is no mention in these classical texts of the need to contain the hair, or any other material, within clay, or to inscribe the outside of the clay with particular signs. Neither do the writers mention any similar ritual within their culture to indicate that the clay balls' function may have originally been imported from Greece.

The report of Egyptians' ritual provided by the classical authors, regardless of accuracy, can be informative for it gives us a better understanding of the magical worth the ancient

¹²³ For further reading on this debate see Armayer (1978), Fehling (1994), Lloyd (1993) and Neilsen (1997).

Egyptians held for their children's hair. Additionally, there are stark resemblances between the report of the classical authors and the observations of the modern Fellahin ritual. Firstly, Diodorus tells us that the hair was given to the god in thanks for the recovery of a child from an illness (I, 83), and the Fellahin similarly offered hair to saints and sheikhs, but in their case it was for providing them with a son (Blackman 1916: 67). Secondly, according to Herodotus, the ancient Egyptians would 'shave either the whole of the heads of their children, or half, or a third of the head' (*Histories* II, 65; Godley 1960: 353), and from Blackman's report we know that the children only had a few tufts maintained on their heads, which were then cut when the appropriate time for making the offering occurred (1923: 66). This would also correspond with Ikram's theory that the depictions of children with a tufted hairstyle (Figure 86) are evidence of the Graeco-Egyptians participating in an earlier form of the modern Fellahin ritual, which consequently also holds many similarities to the ritual told by Herodotus and Diodorus (Ikram 2003: 249-50).



*Figure 86: Mummy portrait, AD 150-200.
Courtesy The J.Paul Getty Museum, 78.AP.262. (Ikram 2003)*

It could be argued that the ritual of the modern Fellahin of encapsulating hair in clay balls was a continuation of a ritual from ancient times, and that it represents the evolutionary process of the clay balls' purpose (Blackman 1925: 65-67; 1927: 84-87, 290). In other areas of modern Africa cutting child's hair for the first time is still considered ritually important, and in western Africa mothers would keep the cut hair in a basket. In some cases the

children will wear a tuft of hair on their head and have it cut during the rites of puberty (Sieber and Herreman 2000: 27). It has been suggested by Tassie (1996) that the clay balls may have been a rite of passage into adulthood, and the following section will address this theory.

5.3. Cutting of the Sidelock

Passage into adulthood could be shown by a simple change of clothing, such as the Roman boys who left behind the child's *toga praetexta* and began to wear the *toga virilis* between the ages of 14-16 to distinguish their place in society (Plutarch *QR* 101; Harlow and Laurence 2002: 61; Laurence and Trifilo 2012: 28). Roman boys also conducted another rite of passage into adulthood once they reached their early twenties when they sacrificed bulls and their first beard to a deity (Petr.*Sat.*28; Suet.*Ner.*12.4; Dio 48.34.3; *Pal.Anth.*6.161; Suet.*Cal.*24; *Ner.*12; *NSc* 1900: 578; Harlow and Laurence 2002: 73).

Hair cutting rituals occurred twice in the life of an ancient Greek's life: the first takes place within a year of being born when an offering of a lock of hair as part of a ritual (*Apatouria*) where a father proclaims his child legitimate and welcomes them to his *phratry* (clan). The second hair cutting ritual, the *Koureion*, occurs for privileged sixteen year old boys from ancient Greece when they offer a lock of hair (*koreion*) as part of a ritual to enter manhood and officially joined the *phratry* (clan). For girls the hair is cut and dedicated to Artemis before marriage, usually about the age of 15, to signify their transition from virgin childhood into potential motherhood (Euripides, *Hippolytos*, 2-3; Carson 1990: 152; King 2002: 94; Golden 1990: 27, 122; Neils and Oakley 2003: 145, 152, 153, 310).

The sidelock of youth, a singular thick plait on the side of an otherwise bald head, is depicted on both boys and girls,¹²⁴ as shown in the pseudo-group statue of Penmeru (Figure 87), which depicts Seshemnefer with his sister Nefershem, both wearing the sidelock (Tyldesley 1995: 154; Fletcher 1995a: 143).¹²⁵ Examples of sidelocks on girls are seen on princesses from the New Kingdom, including Hatshepsut's daughter, Neferure (Kitchen 1963: pl. VII), and the Amarna princesses Ankhesenpaaten¹²⁶ and Meritaten¹²⁷ (Aldred 1973: 118, 196; Cooney 1965: 19). The most common representations of sidelocks are of royal children and child gods, such as Horus the Younger, otherwise known as Harpocrates and Khonsu (Wilkinson 2003: 113, 132).



Figure 87: Statue of Penmeru (Boston MFA.12.1484; Courtesy of the Boston Museum of Fine Arts)

Most scholars who have published research on the clay balls, including Arnst and Tassie, have surmised that the hair found inside of them may have originally come from children based on Crompton's declaration that the hair was infantile (1916: 128). Tassie (1996: 59) thus suggests that the hair may have come from a plait of hair traditionally worn by ancient

¹²⁴ Chapter 115 of the Book of the Dead states 'I know why a tress is made for a male' (Lurker 1980: 57; Faulkner 1998: 115), which could suggest that the sidelock was exclusively for males, but during the Middle and New Kingdoms girls are depicted wearing the sidelock also (Davis 1986:401). Lurker argues that this could refer to eternal youth, but does not explain his reasoning (1980: 57).

¹²⁵ Boston Museum of Fine Arts, accessed 17th January 2014.

<http://www.mfa.org/collections/object/pseudo-group-statue-of-penmeru-140414>. Also see Aldred (1980: 101, fig. 61), Smith (1949: pl. 21), and Simpson (1980: 24-5, pl. XLIX).

¹²⁶ MMA.1985.328.5.

¹²⁷ Brooklyn Acc.No. 35.2000.

Egyptian children called the sidelock of youth. One of his theories extends to the cutting of this sidelock, which may have been a rite of passage for a child as it entered adulthood (1996: 59). Blackman's conviction was that, like the modern Egyptians, the hair balls were given in thanks for a child's life (1925: 67), a hypothesis supported by Tassie, who reminds us of the Egyptian ritual told to us by Herodotus and Diodorus, in which silver, weighed against a lock of a child's hair, was given to the cult of a deity (1996: 62; Herodotus II, 65; Godley 1960: 353; Diodorus I, 83; Oldfather 2004: 283). The age of the children is not mentioned in the text, so there is some credence to this theory.

The sidelock was often associated with the god Horus, who in his youthful form was depicted with this hairstyle, and as a result a ritual called the 'tying of the fillet'¹²⁸ was undertaken. In mythology, Horus' mother Isis tied a fillet around his head when he started searching for his uncle, Seth (Feucht 2005: 264; Tassie 2011: 216), and is referred to in Coffin Text 640 (Faulkner 2004: 218) and *Book of the Dead* Chapter 50 "A knot is tied behind me, in the sky, of the earth, by Ra, on the day of fastening the knot against the inert forces at the feet, on that day of cutting the side-lock (of hair)" (Papyrus of Nu; Quirke 2014: 60). Based upon this myth, an offering of hair from the sidelock would be offered to Horus to signify the child's progression into adulthood (Davis 1986: 401; Tassie 1996: 59; Tassie 2005: 69-70), which some argue took place at the age of ten (Davis 1986: 402). Quirke suggests that this ritual may even be connected to circumcision (Quirke 2014: 60), but there is no further evidence to support this. Comparing this ritual with the modern Egyptian ritual of clay balls, as reported by Blackman, it is possible to suggest that the hair found in the clay balls could represent this important event in a person's life. This, of course, would only be applicable to Group L, which comprises of the balls containing hair.

¹²⁸ Urk, I, 98, 12; Urk I, 253, 18.

In spite of the fact that the Kubbân stela¹²⁹ (19th Dynasty) states that (in reference to Ramesses II) “the affairs of state were told to thee while thou wert a child wearing the curl” (Kitchen 1973: 353-360; translation in Kitchen *ARE III*; Breasted 2001: 120), which refers directly to the connections between childhood and the sidelock, there are examples of adults wearing the sidelock present in ancient Egyptian art. The earliest example of this is dated to the Middle Kingdom on the shrine of Sesotris I at Karnak; previously adults had been depicted with the sidelock, but they were not priests (Figure 88; Fletcher 1995a: 171). In addition, there is a depiction of Nefertiti’s sister Mutnodjmet in the tomb of Panehesy at Amarna wearing a sidelock, like the daughters of her sister (Fletcher 2005: 89). One such example is the priests of Ptah, who wore the hairstyle to show their status (Lurker 1980: 57).¹³⁰ The discovery of clay balls (ball nos. 118, 119, 120, 121) at Zawiyet el-Aryan in the tomb of a priest may consequently be significant. However, currently the contents of these balls are unknown, thus preventing further analysis.

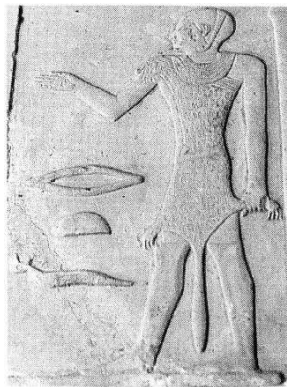


Figure 88: Relief Figure of Priest in Interior of Limestone Kiosk (“White Chapel”) of Sesotris I, Karnak Open-Air Museum, XII Dyn. Karnak (Fletcher 1995b: Fig. 226).

¹²⁹ Referred to as such because the stela was found at Kubbân (Breasted 2001: 117).

¹³⁰ Tuthmosis, crown prince to Amenhotep III and High Priest, depicted with the sidelock. Ptahmose, another High Priest of Ptah, is depicted on a block and naos wearing the sidelock. A figure of Pahemnefer and reliefs of Khaemwese, both priests of Ptah, also display this trend (Louvre N.518, Sakkara; Louvre A.72; Louvre E.2749; Leiden No. AP.11; Berlandini Keller 1993: 20; Bosse-Griffiths 1955: 56-63; Fletcher 1995a: 215, 227; Kozloff and Bryan 1992: 242, 254, no. 1, fig. 37a; Schneider and Raven 1981: 102-3, no. 92; Vandier 1958 III, pl. CXLV.6; Yoshimira and Tatamiya 1994, 19).

In connection with a festival for Hathor, women are also depicted with sidelocks (with another hairstyle present beneath). Staehlin believes that these are a “visual reference to Hathor” due to the repeated symbols of the goddess that are present in the Meir tomb of Ukhhotep, a High Priest of Hathor (1978: 77-79; Fletcher 1995a: 190). These examples could indicate that the sidelocks are not necessarily worn exclusively by children or by a particular sex.

The link between wearing the sidelock and childhood is strong enough for some Egyptian men to refer to this period of their life as “before I had cut off the sidelock” (Mertz 2008: 49). Thus far, there has been no date found as to when an Egyptian child had their sidelock of youth removed. It is possible that the sidelock was cut off at the onset of puberty, which generally occurs between the ages of 10 and 15,¹³¹ thus connecting the child’s physical change into adulthood with their new social status as an adult. This may have instigated further changes to the child’s life and may have henceforth been allowed to marry or own property if they wished. Perhaps, for a young girl, cutting the sidelock marked her first menstruation and that she was now old enough to conceive children. Robins has suggested that certain hairstyles were worn by girls who appear to be fully grown, but are not yet married (1993: 185). In ancient Rome girls wore a specific six tress hairstyle for their wedding day (Harlow and Laurence 2002: 61), and as a married Roman woman wore their hair up (Euripides, *Bakkh.* 695, Carson 1990: 152). In some Melanesian tribes women can only advance to adulthood once they have given birth or adopted a child (Gilchrist 2012: 95). There is an Egyptian hairstyle which appears to be exclusively reserved for childbirth (Brunner-Traut 1955: 11-30, 24-26; Pinch 1993: 219-220; Janssen and Janssen 1990: 7), but this may be practical or amuletic rather than acting as a symbol for a rite of passage.

¹³¹ The age of the onset of puberty can vary depending on social and cultural situation (Grimes 2000: 108).

A similar situation may have applied to boys with their physical changes being either their first emissions of sperm, or those more visible to the community, such as the growth of facial, chest or pubic hair (van Gennep 1960: 67). Van Gennep defines this as 'physiological puberty', as opposed to 'social puberty', the latter meaning a specific age set by society for when a child is considered to be an adult. An example of social puberty comes from ancient Rome where girls were able to marry at the age of twelve, but many had not physically entered puberty and thus did not have the ability to conceive at the time (Gardner 1995: 38; Rawson 1996: 27; van Gennep 1960: 66). As there is no recorded evidence of a specific age of adulthood defined by ancient Egyptians (Janssen and Janssen 2007: 83), it is possible that none existed and that maturity was defined by physiological changes, like the examples mentioned above. Despite this there is little evidence to link the clay balls to a puberty rite due to the softness of the hair samples, which clearly point to a much younger child.

The cut hair present in the balls does show slight waves, such systematic waves can easily be created from braiding hair or may simply be a consequence of being rolled up inside the clay. Figure 89 shows the result of using a simple plait with three strands of modern Caucasian hair,¹³² which produces the same wave effect as ball no. 2 (Figure 90). Although ancient Egyptian depictions of plaits vary greatly in size and complexity, it is entirely possible that the hair may have originally come from a sidelock of youth, or from an elaborate hairstyle. However, if the hair in the clay balls has been correctly determined to have belonged to a young child (Chapter 1), then the theory of the hair cutting being a rite of passage into adulthood is not supported. Humans were not the only ones to progress through rites of passage, as there is evidence to suggest the gods did also, particularly in the case of the solar gods, who could take child form or were regularly reborn.

¹³² No hair products or crimping devices were used in this reconstruction.



Figure 89: Waves created from plaiting. (Photograph: A. Hammett).



Figure 90: Waves in hair from ball no. 2. (Courtesy of Bolton Museum).

5.4. The Solar Birth

A theme which runs through this chapter is the Egyptian concept of cyclical time, which was based upon the belief that the sun god was reborn every day. This was discussed in the previous chapter, but here it is examined in relation to rebirth. Cyclical time must not be understood literally, but ritually. Maintaining the daily cycle with rituals, such as the ‘striking of the ball’ ritual and other execration rituals, ensures the continuation of *maat* and time, and prevents chaos; a cycle that repeats forever (Assman 2002: 206-8; Muhlestein 2008: 2; Faulkner 1937: 169, 171, 174). This divine eternal time was called *nḥḥ* (Bakir 1953; 1974; Bochi 1994: 56). Not all aspects of this eternal time were quite so religious in Egyptian “philosophy” though; earth cycles also occur through the rotation of

seasons, which is supported by their depictions in tombs, and through the king's sed festival, which took place to rejuvenate him and lengthen his reign (Bochi 1994: 60-1; Uphill 1965: 373).

Re's cyclical rebirth is reinforced by his link with the lily, which lifts itself out of the water and blooms to descend once again at night (Allen 2005: 44; Helck 1984: 1092; Lurker 1980: 77-78). Re's passage through the underworld also causes a cycle for the dead who arise for to join the sun-god on his journey to go back to sleep, ready for the next cycle (Bochi 1994: 58). The serpent god Mehen sometimes protects Re by wrapping himself around the sun-god, putting his tail in his mouth, creating a protective circle (Piccione 1990: 44, 51; Schweizer 2010: 60). The sun god was the key representative of regeneration in ancient Egyptian lives, as a symbol of fertility and rebirth.

Khepri was one of the forms of the sun god Ra, who encompassed three different deities; Khepri the scarab beetle symbolised the rising morning sun, falcon-headed Ra during the midday and Atum as a ram or human wearing the double crown representing the setting sun (Quirke 2009: 171; Wilkinson 2003: 230). As the morning sun, Khepri "symbolizes a new content of consciousness emerging from the darkness of the unconscious" (Schweizer 2010: 86), as well as the sun god's defeat of the enemies that he fought in the night (Quirke 2009: 45; Kemboly 2010: 247- 258).

Each day he was reborn on the eastern horizon as Khepri after enduring a number of battles and trials through his solar journey. He would then take the form of Re during the day, then became Atum during the day's end before entering the dangerous nocturnal hours once again (Schweizer 2010: 46). The god's journey is described in the *Cult-Theological Treatise*:¹³³ "at his appearance, when he opens his ball and flies up to heaven as

¹³³ This text can be found at the Temple of Hatshepsut at Deir el-Bahari; on the southern part of Luxor temple (Karkowski 1979: 217- 219); the sun chapel at Medinet Habu (Epigraphic Survey 1963:

Khepri by entering at the mouth and comes out at the thighs at his birth” (Assman 1995: 19, 45). In the *Book of Earth*, depicted in the tomb of Ramesses VI (Figure 91; bottom register), Khepri is shown ‘emerging’ from a ball or disc as the creature, as indicated by the aforementioned text. It is conceivable, however, that the ball represents the sun itself, but it seems more likely that the sun is instead the disc which Khepri is raising with his forelegs, representing the rising morning sun. The literal meaning of Khepri (*hpr*) is ‘to become’ (*Wb* III, 260-265; Faulkner 1962: 188-189; Ward 1902: 6), combined with the imagery of the god emerging from his ball, could have close reflections to birth.



Figure 91: The tomb of Ramesses VI (Piankoff 1954: Pl. 130).

The description of Khepri emerging from his ball is directly related to the behaviour of the dung beetle, which buries its eggs in a ball of dung, and once hatched they emerge from the same ball (Edwards and Aschenborn 1988: 17). According to Plutarch (*De Iside et Osiride*, 11.52; 1936: 27-29) the Egyptians believed that all scarab beetles were male, but were able to reproduce on their own, much like the sun god. As the ancient Egyptians

424c); the Taharqa building at Karnak (Parker et al.1979: 31-33, 38-40, pl. 18 B); on two royal coffins from Nuri dated to the 25th Dynasty (Goyon 1979: pl. 31-33).

believed all dung beetles to be male (Plutarch, *De Iside et Osiride* 10; Griffiths 1970: 133; Roth 2000: 190), the emergence of these insects would seem miraculous, as if they were born out of nothing. This is supported by Khepri's name meaning 'the one who comes into being', in addition to Khepri's title *kheper-djesej* 'he who comes into being' (Quirke 2009: 25-26) and thus he became closely associated with the daily cycle and the concept of rebirth (Roth 2000: 194). Further to this the act of the dung beetle (otherwise known as a scarab) rolling its dung-ball would have also generated parallels with the ancient Egyptian view of the sun rolling through the heavens (Quirke 2009: 26).

The general concept of fertility can connect the symbolic meaning of the clay balls with the fertile aspects of Khepri. Ball no. 1, like the majority of the clay balls, is spherical in shape and has the seal impression *ms*. This can mean 'to be born' and may relate to birth or Khepri's emergent birth, and it would be possible to suggest that the use of the clay balls may have reflected the belief that Khepri was born from a ball of mud, seemingly like his mortal counterpart the dung beetle, with the exception of those in Group J which tend to be flatter. The unfired state of the clay balls could have been a conscious decision by the creator to maintain the soil's fertility. Sun-drying the clay balls, similar to the process used in making the Osiris corn mummies (Centrone 2006: 41) may have represented the growing process, which requires the sun to begin germination. To fire the material would transform it into a ceramic, a completely different material altogether, meaning it would not reflect the intended message.

Further support for my argument that many of these balls were used for invocation of fertility can be found in the *Book of the Night*. This book, like the *Book of the Dead*, was painted onto tomb walls and depicted the sun god's journey through the sky to transform from the ram headed god of the night to a scarab in the morning. During this journey, Ra is swallowed by the goddess Nut and then reborn. He also comes up against his enemy the

god Seth, but the entity Apophis is never mentioned in these texts. The earliest example is found in the tomb of Seti I (1294-1279 BC) and is used until the Late Period (Hornung 1999: 122-135). The 12th hour of the *Book of Night* depicts a circular object, possibly a solar or lunar disk, from which Khepri emerges. The disk may represent a ball, but it is the inclusion of the phrase “opening of the ball” that solidifies the theory that the clay balls may be related to this scene. This royal tomb scene and the role of Khepri will be scrutinised to determine if there is any likely connection between the ball which is opened and the clay balls themselves, and whether the concept of Khepri supports this.



The 12th Hour of the *Book of Night* represents the ‘becoming’ of the cosmos and the rebirth of the sun god. The scene (Figure 92) shows a scarab on a stylised potter’s wheel, close to the sky goddess Nut’s vulva, with a stream of liquid pouring from the insect’s head. This stream falls onto the hieroglyphic sign for the sky  (Gardiner code N1), which is held up by another scarab. Underneath this depiction there is a child and the sledge sign  (tm - Gardiner code U15), which can be used in the spelling for either a representation of the god Amun or for the word ‘completion’ (Faulkner 1991: 298). Perhaps this name is included to identify the child as Amun, who is referred to in his juvenile form in the hymns as “the child who issued from the lotus” (Pinch 2002: 158), reinforcing the concept of rebirth, or alternatively to indicate the process of the ‘becoming of the cosmos’ as being completed. The two figures represent two deities from the Hermopolitan ogdoad, Huh and Hauhet, meaning ‘endlessness’ and symbolising the eternal regeneration of the cosmos (Piankoff 1954: 427; Roberts 2000: 162-3). This belief in cyclical time may have also been applicable to the ancient Egyptian lives and cementing their faith in regeneration.



Figure 92: Book of the Earth scene from the tomb of Ramesses VI (Piankoff 1954: Pl. 196).

Although no spheres are present in the depiction of this scene, the phrase “opening the ball” has been included in other versions.¹³⁴ Roberts argues that the ‘opening’ draws similarities to the opening of a dung ball by a scarab ‘to swim in his redness’, as it is described in the *Book of Nut* (Papyrus Carlsberg I), referring to the redness of the newly risen sun (Text E, pl. 44; Neugebauer and Parker 1969: 48-49).¹³⁵ Re then “sits on his cloth, that is to say, on his birth-brick ... in the form of Khepri”: Neugebauer and Parker thus summarise Text E as comparing the birth of Khepri to a woman in labour on birthing bricks (Text E, pl. 44; 1969: 48).¹³⁶

Roberts suggests that it may be related to the ‘opening’ that a child makes in order to leave its mother’s body. A similar text infers the same principle “O exalted winged beetle who ascends the sky! It is he who “opens the sphere” in the sky goddess, and fills the earth with gold dust, who comes to life in the eastern mountains” (Blackman and Fairman 1941: 397-428, text E, I-II; quoted from Assman 2001: 38). In this case the process of the Heliopolitan rebirth, an ancient Egyptian creation story which begins with the sun god (Khepri/Re/Atum) creating himself, is likened to the opening of a ball made upon a potter’s wheel, as

¹³⁴ See Dorman for a discussion regarding Assman’s translation of this text (1999: 84-87).

¹³⁵ This is supported by depictions of a red ball being swallowed by Nut at sunset and then moving through her body until Khepri is reborn (Tomb KV9, Ramesses VI, 20th Dynasty; Capel and Markoe 1996: 45).

¹³⁶ For further information on birthing bricks see Roth and Roehrig (2002).

observed in this scene from the 12th hour of night (Roberts 2000: 162-163; James 1969: 17). There are numerous examples of depictions of the sun god being shown within a solar disk, as if in an egg waiting to be born, and his form sometimes takes the form of a scarab (West Wall of the tomb of Panehsy, Iunu) (Quirke 2009: 47).

This emergence from a ball representing birth can be seen on another panel of the scene from the *Book of the Earth* (Figures 91 and 93) where the goddess Hathor is depicted emerging from a similar disc to that of Khepri. On either side of her are two serpents referred to as the 'Devouring one' and the 'Flaming one', who appear to be protecting the goddess as she emerges (referred to as 'the Contented One'), similar to the demons found on birthing wands, which protect a newly born child (Roberson 2009: 436). The other figures in the image include the god Atum and a male figure named the 'Seizer', both of whom are grasping the snake which also emerges from the disc, and the head of an unidentified ram headed figure. The arms of the primordial goddess, Naunet, can also be seen holding a sun disc to the far right (Piankoff 1954: 366-367). In this scene, Hathor assumes her role as the Solar Eye, as opposed to her violent form (Roberts 2000: 137), and thus reflects her association with fertility. Thereby the concept of regeneration is reinforced in this scene. The scene's presence in the sarcophagus chamber in the tomb of Ramesses VI further implies this, because, as argued previously, the tomb and sarcophagus were linked to the idea that the womb was a container for ensuring life,¹³⁷ because, like the womb, which protected a developing life, the tomb and sarcophagus protected the dead to allow rebirth (Frandsen 2007: 101, 103-5; Roth 2000: 198).¹³⁸

¹³⁷ This idea stems from a depiction of a jar on Papyrus Salt 825, on which the text directly refers to the jar as a womb (Derchain 1965a: 145; 1965b: pl. 9; Frandsen 2007: 100-102).

¹³⁸ This is reinforced by the burial of individuals in the foetal position (Tassie 2000: 37-41; Tassie 2008: 63-64).



Figure 93: Scene from Book of the Earth from the tomb of Ramesses VI (Piankoff 1954: Pl. 131).

The tomb and the sarcophagus were also considered to be representative of the womb of the sky goddess, Nut, who was depicted stretched protectively across the tomb or lid of the sarcophagus. In this capacity she is responsible for protecting the body of the deceased and their rejuvenation. This belief originates from the depiction of Nut in the *Book of Night* where she swallows the sun in the evening to give birth to it the following day (Billing 2002: 181-184; Derchain 1965a: 145; Derchain 1965b: pl. 9; Frandsen 2007: 101, 103-5; Hornung 2005: 14; Neumann 1963; Roth 2000: 198).

Birth and rebirth were not explicitly separated from each other in ancient Egyptian thought. The original birth was of the sun god and, according to Heliopolitan tradition, he created himself from the waters at Heliopolis whereas in contradiction the Hermopolitan theology states the sun god was born from a cosmic egg at Hermopolis (James 1969: 18; Manniche 2005: 516-517). The sun god then endures a daily cycle consisting of death, a fight against chaos in the underworld and then proceeds to be reborn at dawn as the morning sun (Quirke 2009: 45; Kemboly 2010: 247-258).

Themes based on fertility, rebirth, the creation stories and the conquering of chaos and evil are represented in Middle and New Kingdom tombs to ensure the rebirth of the deceased (Fante Chi and Zingarelli 2002: 34; Hornung 2005: 11-12). This can be seen in the *Amduat* and the *Book of Gates* (both from the New Kingdom onwards), which are present in the tombs of Tuthmosis I and Horemheb (Hornung 2005: 11-12). In Egyptian cosmology death was believed to be a journey to another form of life (Frandsen 2007: 104). Rebirth in the

afterlife, like birth, is fraught with dangers and rites of passage would have been essential in order to protect the deceased moving from one existence to another.

Further to this in the 5th and 10th hour of night in the *Amduat*, a scarab holds a representation of the netherworld (an oval with dots), which symbolises the regenerative power of the netherworld through the context of the Cavern of Sokar (the place of the sun god's rebirth) (Schweizer 2010: 166). Dots in an oval formation can be found on fertility figurines (Pinch 1993: Pl. 46; Stevens 2006: 91), and on a number of clay balls (Group J), which could similarly be associated with the netherworld and regeneration. However, Group J does not originate from a mortuary context and are in fact excavated from Amarna homes. If there is a correlation in symbolism between the dotted oval and the clay balls, perhaps it is the concept of fertility from the point of view that the sun god is able to regenerate himself.

The lack of seal impressions on these pictorial examples of spheres may counteract the prospect of explaining the function of the clay balls in Groups B-I, but the process of making a clay ball must not be forgotten. As discussed in Chapter 3, the seal impressions found on the clay balls would have been made using scarab seals, and the pressing of these into wet clay may seem ordinary, but in a votive setting this process could have had substantial religious significance in the same way that vocalising a spell would have had. This may also have been the case for the fertility figurines. Group A (those inscribed with the phrase 'to make a contract') would not, however, be sufficiently explained using this theory, because there is no direct link between contractual agreements and fertility¹³⁹ but these balls are significantly earlier than the other clay balls.

¹³⁹ The possibility of this theory is discussed in Chapter 6.

5.5. Significance of Materials and Decoration in Clay Balls and their link to birth, death and regeneration

To address properly the question of whether the clay balls may have served a function related to fertility or regeneration, a study of the materials present in the clay balls must be conducted. Both hair and clay possess ingrained meaning in ancient Egyptian culture and a detailed analysis of mythology, literature, pictorial representations, anthropological parallels and paraphernalia will be offered.

5.5.1. Clay

When considering the possibility of the clay balls having a ritual function, the symbolism of clay within ancient Egyptian mythology and magic is significant. Clay could have been perceived as a magical substance, because when wet it can be moulded into any shape and would return back to mud when water was added to it; whereas when dry it is rock hard or becomes powdery when crushed (Vitelli 1999: 191). The extensive availability of clay, as it was freely available from the banks of the Nile, meant that anyone could have made these clay balls.

Soil would have held obvious connotations to the concept of regeneration as the Nile flood would bring mineral rich alluvium soil to the fields, and when this occurred the Egyptians would be assured of a bountiful harvest that year. Without a sufficient flood this inflow of nutrients would not occur, thus the regeneration of the land would not take place and the harvest would not be successful. It is likely they saw the nutrition in the clay as part of the living giving process. This view of soil still exists in areas of Africa and pregnant women ingest soil in an attempt to provide their babies with minerals and vitamins (Shinondo and Mwikuma 2008: 48-49).

Clay had a connection to the god Khnum who, according to Egyptian myth, created all people from clay and gave them life on his potter's wheel (Stela London 14333; Goedicke 1962: 25ff; Schenkel 1964: 6ff; Sauneron 1963: 250, 319, 394; Sauneron and Yoyotte 1959: 73; Simkins 2014: 45-6; Lichtheim 1980: 112). The Great Hymn at Esna states that Khnum had the power to make "hair sprout and tresses grow" (Lichtheim 1980: 112). He was also responsible for the inundation of the Nile, which was crucial for the survival of Egyptians in both life and the afterlife (Assman 2001: 205; Hassan 1997: 52; James 1969: 18).

Osiris, god of the underworld, is often associated with the Nile and with the the concept of regeneration as a consequence of being reborn after his murder by his brother Seth (Plutarch *Isis and Osiris*; Wilkinson 2000: 119). This association has led to a variety of different artefacts related to Osiris being placed in graves to help encourage the rebirth of the deceased; these items range from amulets to corn mummies, to depictions of funerary artefacts, to pottery bricks with an Osiris shape carved in.

So-called Osiris beds, dated to the New Kingdom, were wooden hollow figures in the shape of Osiris and then filled with soil and planted with recently germinated grain or seeds. The new sprouts would make it appear that life had begun out of death (Schweizer 2010: 67-68). These beds are thought to represent the coffin of the god, which may have been used as a part of a festival and allowed people to honour the god (Teeter 2011: 66; Tooley 1996: 171, 174, 175); this may have reflected human sarcophagi and their own rebirth. Corn mummies, a Graeco-Roman version of the Osiris beds, were shaped in the figure of Osiris using soil and grain, and then wrapped with linen. These could then be further decorated by making them ithyphallic or by placing Osiris' *atef* crown on the figure. Another form of corn mummy is created out of clay and sand, and planted with barley, which along with emmer was an essential ingredient for the making of beer and bread (Centrone 2006: 33;

Ikram and Dodson 1998: 120; Raven 1982: 7, 28; Samuel 2005a: 171; 2005b: 196; Tooley 1996: 167), the primary food stuffs of the ancient Egyptian diet.

These artefacts were deposited in tombs as a symbolic representation of the ancient Egyptian beliefs in regeneration and rebirth. The god Osiris was the preferred deity to represent the concept of regeneration, as his mythology describes his rebirth after his sister-wife Isis put his body together again, and because of his ability to father a child after death (Horus). In the tomb it would function like an amulet to aid the deceased's progression into the afterlife (Centrone 2006: 41; Frandsen 2007: 100; Ikram and Dodson 1998: 120; Raven 1982: 10, 15, 18, 31, 32; Teeter 2011: 62; Tooley 1996: 174). During the Ptolemaic and Roman periods, literature, inscriptions and burial masks of males would depict or associate the deceased with the god Osiris, probably to induce his regenerative properties (Riggs 2002: 96).

The death and burial of Osiris would be recreated in the annual Khoiak festival to celebrate the rebirth of life (Centrone 2006: 38). Making corn mummies may have provided people with the opportunity to be involved with the rebirth of the god; although there is no explicit evidence to connect the artefacts with the Khoiak festival (Centrone 2006: 40; Teeter 2011: 66; Tooley 1996: 175- 176, 178). Standard and gold versions of Osiris beds were created in celebration of the festival to promote regeneration in the land of Egypt. These would either become incorporated into someone's funerary equipment, or were kept and buried at the end of the year when a new figure was created (Blackman 1933: 19-20; Teeter 2011: 62).

There is no evident link to Osiris on the clay balls except that Group C had the names of the kings on them and the king was thought to become Osiris after he died according to the Pyramid texts (Utt. 365; Faulkner 2007: 120; Germond 2005: 38). However, because the clay balls were formed with mud they may show a similar associations with the Osiris beds,

and similarly, they were also found in tombs, which could suggest that they served a related function. There is no evidence of grains being found within the material of the clay balls, but the presence of hair and its ability to grow constantly may indicate a similar symbolism with regeneration, particularly with the god Khnum who created people out of clay and then “hair sprout and tresses grow” (Lichtheim 1980: 112).

5.5.2. Hair and its association with fertility, sexuality and birth

As seen so far, hair is incorporated into many different rituals, particularly rites of passage, and can be seen from all around the world, for instance the English still continue to do this today (somewhat subconsciously), in the tradition of storing of a lock of hair from a child’s first haircut in a silver container, usually given as a gift at Christenings, in addition to the Upsherin (haircut of a three year old male child) practised by Jews (Ashkanani and Shahshahani 2012: vi; Bronner 2009: 20) and the *‘aqiqa* by Muslims (Bilu 2003: 189; Zarandi 2012: lxx).

The symbolic importance of hair stems from its visibility and its ability to be fashioned (Hershman 1974: 291). To some, such as the Tamil, hair can be seen as something dirty which should be removed to prevent it polluting society (McGilvray 1994: 24), whereas others, such as Sikhs, will not cut their hair at all as they believe it to be sacred (Hershman 1974: 275). Understanding what hair represented and what it could have symbolised is crucial when attempting to analyse the clay balls, as the inclusion of hair found inside the clay balls of Group L is not accidental, but the purpose of its incorporation into the artefact is not entirely clear. By examining the portrayal of hair in Egyptian epigraphy, art and physical archaeological remains, as well as drawing on ethnographic parallels for comparison, we can better understand why hair may have been included in these artefacts.

Hair, whether as an expression of fashion or of status, was clearly important to the ancient Egyptians, as great care and detail was devoted in depictions of different hairstyles on wall paintings (Lesko 1991: 7). Wigs found in tombs exhibit the effort and expense invested in making elaborate hair designs. Such care was taken with their hair that the profession of hairdresser was regarded as having ritual importance and hairdressers were sometimes buried near the king (Tassie 2008: 103; Tyldesley 1995: 158). The title of hairdresser is found in both the feminine and masculine forms (Riefstahl 1956: 10), but is more commonly a position for men (Tyldesley 1995: 158). In 2500 BC there was even the first mention of the title 'Royal Wigmaker and Hairdresser', showing that a hairdresser was deemed a necessity by those residing in the royal palace (Fletcher 2004: 100).

It is often assumed by many western scholars that long hair is an indication of femininity and that men wear shorter hair than women. This mode of thinking is based on Christian thought originating from St. Paul in the first century A.D (Fletcher 2004: 102; Fletcher 1995: 51), who is quoted as saying "Does not the very nature of things teach you that if a man has long hair, it is a disgrace to him, but that if a woman has long hair, it is her glory?" (Corinthians 11: 14-15). This is certainly not the case in ancient Egypt or many other periods of history, where men would wear wigs of equal length to women. There is an example of one man buried directly into the sand, who had had extensions attached to his real hair to lengthen it. His state of burial and his use of extensions, rather than a wig, could also suggest that this is how the poorer Egyptians could afford to indulge in their appearance (Fletcher 2004: 97).

Hair symbolised fertility and rebirth to the ancient Egyptians, possibly due to its ability to continue growing even after being cut (Fletcher 2004: 97; Friedman 1998: 25). Hair can be directly connected to the fertility of the earth, through the link between hair and crop growth, evident in Spell 473 of the Coffin Texts "the earth-hair which the earth yields"

(Faulkner 1977: 109). This is supported by the reference to some papyrus clumps which are named as “the Hair of Isis” (Fletcher 1995a: 79; Nachtergaele 1981: 594-5). Isis was connected with rebirth through her pivotal role in rejuvenating her husband Osiris (Plutarch, *De Iside et Osiride* 18; Griffiths 1970: 145; Wilkinson 2000: 119). The hair of Isis seems to be the focus of the beauty of the goddess; her titles include “she of the beautiful hair” and “she of the beautiful curls” (Fletcher 1995: 71). The stated beauty of the goddess enforces her sexuality and her connection to fertility through her role in sexually rejuvenating her husband in order to become pregnant.

Offerings of hair are found to have been deposited for particular deities associated with regeneration, for instance Osiris’ ability to conceive a son after death (PT 366; Faulkner 2007: 120-1), which associated him with the idea of life after death and regeneration (Wilkinson 2000: 119). Pilgrims would journey to leave offerings of hair in Abydos, the cult centre of the god Osiris (Maspero 1912: 170), or to the 1st dynasty pyramid of Djer at Abydos, which by the Middle Kingdom became associated with the same god, who was also believed to have been buried in the town (Fletcher 2004: 90, 100; Bard 2000: 67-68). Alternatively, hair offerings may have been left as a symbol of sexuality, based on the evidence provided by innuendos in literature, explicit and suggestive images, the presence of the fertility figurines, and the perception of the goddess Isis. As a result, it would have invoked fertility for the living, or promoted fecundity and rebirth in the afterlife.

Often, rituals of birth and death are similar to each other in order to promote the idea of rebirth after death (Rappaport 2002: 230); “death and birth are the same thing - that birth follows death just as death follows birth. This seems to amount to denying the second aspect of time [irreversibility] by equating it with the first [repetitiveness]” (Leach 1961: 125). This allows humans to accept the inevitable end of life with death and makes the

event less fearful. However, the presence of contraception in ancient Egypt suggests that sexuality did not always relate to fertility.

Hair can be used to promote fertility and sexuality as it can either be dressed in a particular fashion in order to attract a partner, or can be completely covered as a sign of modesty.¹⁴⁰ Subconscious private and public cultural sexual symbols (Hershman 1974: 292) would have existed in ancient Egypt, but the former is more difficult to trace in Egyptian archaeology due to the continued occupation of sites, and a small amount of written evidence available about the private lives of the ancient Egyptians. Much of the remaining ancient Egyptian evidence focuses on the public cultural symbolism of the sexuality of hair, particularly in ancient Egyptian literature. Below are a couple of New Kingdom examples which infer the sexual suggestion of a woman's hair:

"My heart thought of my love of you, when only half my hair was braided; I came at a run to find you, and neglected my hairdo. Now if you let me braid my hair, I shall be ready for in a moment." From Papyrus Harris 500 (Papyrus British Museum 10060), The Second Collection (Lichtheim 2006: 191).

"She cast the noose on me with her hair" from Papyrus Chester Beatty I (Recto, 7th Stanza, 17, 2; Gardiner 1931: 37; Lichtheim 2006: 187).

In the *Tale of Two Brothers* (from the New Kingdom) the female protagonist is described as preparing her hair in an attempt to seduce her husband's brother (Roberts 1995: 88), and later she lies and tells her husband that his brother was the seducer and said "let us spend an hour lying together; loosen your braids" (Lichtheim 2006: 205). The writer of the text implies the erotic connotations that the ancient Egyptians held for hair, perhaps specifically

¹⁴⁰ Leach believes that in the majority of cases long hair signifies 'unrestrained sexuality', whereas short hair could indicate a 'restricted sexuality' and a completely shaven head represents celibacy (Leach 1967: 81-2, 90). However, his theories reflect a modern Western world in the 1960's and do not apply to all cultures, ancient or modern. Hallpike strongly disagrees with this theory (Hallpike 1969: 260), as do I.

women's hair. The story continues and eventually the potter god Khnum creates a companion for the brother. Later in the story, the brother's companion is chased by the sea and as she flees, a branch catches a lock of her hair, the wind then carries the lock to where the Pharaoh's clothes were washed. The king smells her hair and sends for her to make her his queen (Lichtheim 2006: 208).

For women to keep their own hair may have increased their attractiveness in the afterlife, and boosted the chances of them continuing with their sexual lives in their next life (Zivie 1998: 179-195). In the *Tale of the Two Brothers* the female protagonist's claim that her brother-in-law asks her to "loosen her braids", has been translated by Lichtheim (1975b: 205). This is disputed by Fletcher, who claims that in a moment of passion it is more probable that one would choose the quicker way of preparing hair and put on a wig. In fact, the use of a wig has been included in translations by other scholars (Fletcher 1995a: 54-55; Derchain 1975: 56; Manniche 1987a: 43; Manniche 1987b: 64; Erman 1978: 153).

The sense of connection between hair, wigs and sex is further strengthened by the female protagonist's husband, to whom she reports her fictitious story, and his instant angry reaction to the reference of putting on the wig indicates that there is a clear innuendo to be construed (Fletcher 1995a: 55). The *Instructions of Ankhsheshonq*, dated to at least the 30th Dynasty, states "if a crocodile loves a donkey, its puts on a wig" (Leahy 1984: 200; Lichtheim 1980: 177), further emphasising the sexual connections of wigs and hair had (Fletcher 1995a: 55). This would suggest that there was no specific need for women to grow their own hair long in order to fulfil this expectation of sexuality, because apparently wigs would suffice (Tyldesley 1995: 155).

The wig was also a display of fashion (Tyldesley 1995: 155; Fletcher 2004: 98; Fletcher 1995: 36) and, because only the wealthy could afford wigs (Fletcher 1995: 14; Robins 2008: 213), it was no doubt a sign of status as well. However, the conscious decision to shave to

prevent getting overheated whilst wearing a wig and to prevent lice would have been perceived differently from baldness that had transpired with age, which was thought to be unattractive. Many mummies are found with hair extensions deliberately used to cover up any bald patches that had emerged. This can be seen on the mummy of Queen Ahmose Nefertari, who was buried wearing a wig of braids over her own thin hair (Robins 1999: 63; Tyldesley 1995: 155). Baldness could have been caused by bacterial infections on the scalp, malnutrition or age (Leek 1980: 39; Rushton 2002: 396-7, 824; Shapiro 2007: 1620-1; Trost 2006: 824), meaning that people of any age were using false hair to hide thin patches. The Ebers Papyrus, a medical papyrus dated to 1550 BC, details a cure for baldness using the fat from a number of animals (Bryan 1930: 153; Ghalioungui 1973: 33).

Depictions of dancers who represent female sexuality (Figure 94) are shown with long curly hair flowing down their bare backs. Some of the positions that these dancers are depicted in makes it unlikely that a wig would have stayed secured on the head, thus it can be assumed that in these cases that natural hair is depicted (Fletcher 1995a: 14; Tassie 2008: 81). Their nakedness is in stark contrast to noblewomen who are generally shown as fully clothed.

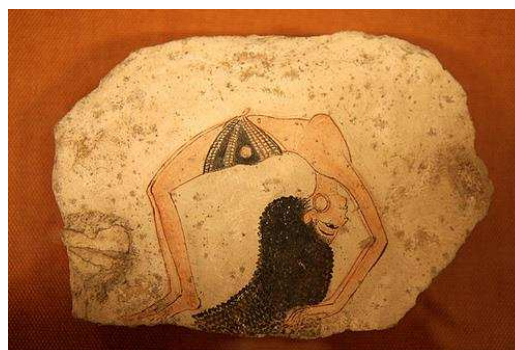


Figure 94: Depiction of Dancer

Dancers are also shown with plaited hair with weights at the end to exaggerate its movement while they danced (Lexová 2012: 160; Spencer 2003: 115; Tyldesley 1994: 154). Similar weights for hair are known to have been small balls of clay, as seen in the 11th Dynasty tomb of Bakt at Beni Hasan (Newberry 1893: Pl. IV; Pinch 1993: 268; Bourriau 1988: 132-3; Fletcher 1995a: 167). Dancers, alongside acrobats, lute players, and priestesses/prostitutes are all portrayed with large breasts and elaborate hairstyles. The exact profession of these women, depicted on the Turin Erotic Papyrus, are debated, some believing them to be priestesses, others prostitutes (Turin 5639; Fletcher 1995a: 52; Manniche 1987: 112-4; Störk 1977: 6; Strouhal 1992: 48). The professions of these women are closely associated with the goddess Hathor (Fletcher 1995a: 52), who was the goddess of sexuality (Bleeker 1973: 39; Wilkinson 2003: 141). Hathor attained the titles of “braided, beauteous, tressed, high-bosomed” (Fletcher 1995a: 71). The goddess Hathor’s role in fertility was to stimulate a man sexually to produce a child, rather than ensuring the fertility of the woman herself (Roth 2000: 194).

5.5.3. Circular Indentations

The connection between hair and sex in ancient Egypt is further confirmed in the paraphernalia found, such as female figurines, which with long hair, demonstrates femininity with erotic aspects (Derchain 1975: 66-9; Pinch 1993: 214). These terracotta or limestone fertility figurines found in houses, shrines and graves, are seen to possess long flowing exaggerated hair, some with beads or mud pellets on the ends of braids (Pinch 1993: 146-147; Pinch 2006: 100; Fletcher 1995a: 162, 208), like those present on the dancers. The hairstyles of some of these figurines are in the style of the Hathor wig (Friedman 1998: 25) and from the middle of the 18th Dynasty they can be found with an enveloping wig (Robins 1996: 28), adding to the potential sexual elements of the figurines.

At the beginning of the 18th Dynasty the pubic line is represented with a straight stroke and a trail of impressed holes, possibly representing a girdle like those that can be seen on the naked serving girls from the banquet scene depicted in the 18th Dynasty tomb of Nebamun (British Museum EA37986; Robins 1996: 28, 31). A circle of round impressions are present on some examples of ancient Egyptian fertility figurines. One example from Gebel Zeit (Figure 95) has a circle of dots around the navel of the female figurine, and other examples can be found in Amarna on female plaques, which Stevens has interpreted as representing a female girdle (Stevens 2006: 91; Figure 96). A similar pattern of indentations are found on some of the clay balls. Not all the figurines have this pattern, but I would suggest that the circular pattern could represent the womb, which is slightly lower than the navel, but during pregnancy the navel appears to be the centre of a woman's swelling as her baby grows. To indent these small circles may be to invoke fertility to the woman who is giving the figurine as an offering.



Figure 95: Fertility figurine from Gebel Zeit (Pinch 1993: Pl. 46)



Figure 96: Female plaques (Stevens 2006: 91)

Similar to these small circles, a circle of impressed dots can be found on the balls in Group J, most of which have a larger circle in the centre, reflecting a strong comparison with some fertility figurines. The number of circular impressions found on six of the clay balls range

from eight to twenty-two. The lack of consistency in the number of impressions could suggest that there is no symbolism to the amount of holes present. However, it must also be considered that the holes may present something personal to the producer. For instance, these could represent the number of days since someone fell ill, they could represent members of a family or it could present how many menses have occurred without a successful pregnancy. Determining which of these is correct is not possible as the patterns may have a fluidity of meaning. All of this group were excavated from houses in Amarna, with one exception which was found in Lahun, but with no specific provenance known. The lack of further data to indicate which rooms these clay balls were excavated from inhibits the comparison with the fertility figurines.

These clay balls all belong to Type J (Appendix 2; Table 22) and are distinctive in comparison to the other groups of the clay balls, as they not only possess circular impressions which can only be found on these balls, but they also take a very different shape. Instead of being strictly spherical like the majority of the clay balls, they appear to resemble more of a squashed sphere. Ball no. 122 takes this form to the extreme, and appears more disc shaped (Figure 97). This 'ball' also possesses a circle of impressions on both of the large surface areas, whereas all the other examples only display indents on the top of the artefact.



Figure 97: Ball No. 122 (UC7235). Photograph: A.Hammett. (Courtesy of Petrie Museum)

These figurines have often been classified as “concubines of the dead” (Wiedemann 1913: 169-172; Kees 1926: 299-300; Petrie 1927: 9), to aid a deceased male in recharging his sexual appetite in the afterlife (Capel and Markoe 1996: 65; Robins 2008: 210). However, a re-examination of the evidence indicates that these were more likely to be fertility figurines as they were found also in the tombs of women and children. Yet, the majority of them were in fact excavated from settlement sites and as a component of votive offerings found near shrines and temples of Hathor at a number of different sites (Kemp 1995a: 29; Pinch 1993: 78-9, 221, 226-233, 358). Hathor’s link to fertility is explicit through offerings such as the fertility figurines, hair offerings, phallic offerings – the latter being appropriate due to the belief that men were solely responsible for conception (Roth 2000: 189-195; Tassie 1996: 62). At the site of Amarna many figurines were found at altars in houses, and another example was discovered along with a stela which depicted a woman and a boy in front of the goddess of childbirth and pregnancy Taweret, perhaps representing women performing after-birth rituals (Fletcher 1995a: 53; Janssen and Janssen 1990: 7; Peet and Woolley 1923: 24-5, pl. 12, nos. 2 and 4; Pinch 1993: 230-234; Robins 1996: 29).

In a mortuary context these fertility figurines are believed to have aided the deceased’s rebirth, in addition to ensuring the continued production of children through guaranteeing a good sex life after being reborn (Bourriau 1988: 125-126; Friedman 1998: 25; Meskell 1998: 368; Pinch 1983: 405-414; Pinch 1993: 146-147; Pinch 1994: 97, 100, 153; Pinch 2006: 100; Ritner 2008: 181, Roth 2000: 198-199; Troy 1986: 93).

Although we are not aware of the contents of Type J, the absence of hair could suggest that the clay balls are not related to the fertility figurines, but it is possible that the indentation patterns representative of a womb could have been copied onto the clay balls, or vice versa, to promote the symbolism of fertility. Group L is the only category of clay balls which

contains hair and may be representative of someone giving thanks for the birth of a child (see Chapter 6), rather than invoking desired fertility.

5.5.4. The lily in fertility, sexuality, and rebirth

Another symbol which was associated with fertility and sexuality was the lily, which was often used in erotic imagery and scenes associated with death and rebirth. The lily was used as a pain killer in medicines for ailments such as headaches, rashes, sores, stomach pain and constipation (Allen 2005: 44; for example see Ebers Papyrus; Ebbell 1937: 60), but the use of lily designs to embellish a number of objects including mirrors, boxes, architectural columns, drinking vessels and boat-prows suggests that the attractive plant holds a meaning of beauty. For this reason, its meaning on such seals can be comparable to that of the hieroglyphic word *nefer* (Petrie 1925: 12-13) meaning 'beautiful' (Erman and Grapow 1928: 257; Faulkner 1964: 131).

Lily seal impressions, with no other accompanying symbols, are only found on two of the clay balls (balls nos. 18 and 19), both of which were found at Amarna but with no known provenance. Ball no. 19 has been identified as having lily seal impressions by Stevens (2006: 114) and Bienkowski and Southworth (1986: 114). However, they are difficult to identify (Figure 98) to the extent that indicating the specific design used is not possible. Conversely, ball no. 18 has clear lily designs, which have been stamped in an obvious pattern (Figure 99). The stamps can be found at regular intervals around the diameter of the ball, and the remaining area of the ball has been stamped at random, but fully covering the surface. The same pattern of stamping is not used universally on the clay balls, thus we cannot regard this as having any symbolic connotations. There were many existing designs for lilies on seals in ancient Egypt, all of which vary considerably. The closest I was able to find that matched this design was from a ring bezel mould (UC2208; Figure 100).



Figure 98: Ball No. 19 (56.21.616). Photograph: A.Hammett. (Courtesy of World Museum, Liverpool)



Figure 99: Ball No. 18 (56.21.615). Photograph: A.Hammett. (Courtesy of World Museum, Liverpool)



Figure 100: Ring bezel mould, UC2208 (courtesy of the Petrie Museum of Egyptian Archaeology UCL)

The daily cycle of the lily involves the closure of the flower and its retreat back into the water as evening falls to the extent that it can no longer be seen, and then re-emerges and opens the next day when the sun has risen again (Lurker 1980: 77-78). This reminded the ancient Egyptians of the daily cycle of the sun and therefore the concept of rebirth and the repeated theme of the cyclical nature of time within ancient Egypt (Allen 2005: 44; Bonnet 2000: 1092; Lurker 1980: 77-78). The god Osiris, who after his dismemberment became whole again, was associated with this process, as it was perceived by the Egyptians that

Osiris returned from death like the lily did. As a consequence, those who visited Osiris' temple are portrayed holding the lily (Emboden 1978: 397). It is also the reason why in spells 81a and 81b in the *Book of the Dead* state that the dead are transformed into lilies (Faulkner 1998: 109; Schweizer 2010: 65).

As an open flower the lily is then pollinated by beetles which land on it and transported the pollen, thus increasing the fertility concept of the lilies. The ancient Egyptian god of the dawn, Khepri (Pinch 2002: 158), was the beetle form of the sun god Ra, who was supposedly created from the lily flower (Helck 1984: 1094; Quirke 2009: 171; Wilkinson 2003: 230). Ra is referred to in hymns as "the child of gold who issues from the lotus", who then ages throughout the day until he reaches an elderly death (Pinch 2002: 158). For this reason, Ra, who, as the sun god, embodies these familiar daily processes, is associated with the lily flower. This constant cycle of birth, death and rebirth meant that the lily came to be a symbol representing rebirth (Pinch 2002: 158; Counsell 2008: 204; Fante Chi and Zingarelli 2002: 33).

There are a number of solar gods (who are represented as children) which are directly associated with the lily flower, including Horus. In one myth, which records the battles between Seth and his nephew Horus, lily flowers are grown when Seth rips out the eyes of Horus and buries them in a mountain (Pinch 2002: 131-2). Nefertum, the god of perfume (Counsell 2008: 204), is another example of a god associated with the flower, and is often depicted either as a child sat on a lily, or a man wearing a lily headdress with titles such as "the Great Lotus" or "the lotus flower at the nose of Ra" (Pinch 2002: 158; Wilkinson 2003: 133; Spell 174; Faulkner 1998: 130). The youth of these gods may have regenerative properties that ties it in with the presence of the lilies. This association with deities means that it comes as no surprise that lilies were frequently given as offerings; one example of an

offering made by Ramesses III involved at least 3410 bouquets of lilies (Papyrus Harris; Breasted 1906: 121, 138, 139, 146, 155, 156, 196; Manniche 1989: 127).

In funerary art, the deceased is often depicted holding a lily flower to his nose, and smelling its perfume because it was believed that as a follower of Ra it would aid rebirth (Pinch 2002: 158). An example of this can be found in the *Book of the Dead*, for instance in the Papyrus of Ani, in which Ani (the deceased) wishes to have the powers of the lily in order to attain his rebirth (Spell 80 in Faulkner 2008: pl. 28; Spell 81 in Quirke 2013: 202). Further to this, the lily is believed to hold sexual connotations due to its appearance in explicit sexual scenes. Robins supports this by highlighting the presence of the naked dancers, musicians and servants, who she interprets as emphasising feminine sexuality (1996: 31).

If the provenance of balls no. 18 and 19 were known, it would be possible to ascertain from that in which way the lily impressed upon them should be interpreted. For example, if these clay balls had been found inside a tomb, it is highly likely that the lily was connected with rebirth and that the clay ball was used as an amulet to ensure this process took place. However, if the clay ball had been found in a home, it could have served a number of different purposes either associated with healing, sexuality, or a form of identification to name a few. Without this vital information, we are left to guess at the possible interpretations of these impressions. Yet, given the significance the flower held in Egyptian religion it is virtually certain that placing it on the objects was not without purpose.

5.6. Conclusion

Despite the lack of evidence regarding rites of passages in ancient Egypt, there is evidence that suggests they did exist. There are inferences made in textual sources which indicate that the cutting of the sidelock was an important event in a child's life as they enter

adulthood and that death was clearly an important stage of life, as it led to one's rebirth into the afterlife. It is worth considering the observations made about the fineness of the hair by Crompton and Arnst, particularly as Tassie's theory is centred on a puberty rite. Tassie's theory does have precedence due to the suggestion that a puberty rite might have existed and that it involved the cutting off of a child's sidelock. The identification of the age of the hair inside of the clay balls indicates, however, that it would have originally belonged to an infant child, as opposed to a prepubescent one.

There is, therefore, sufficient scope for other types of rites of separation, which could have taken place at a much younger age. The rite may be focused on teething, weaning, first words, first steps, or surviving to a certain age. Across cultures a baby's hair often offered to a deity in thanks for the life of that child, and according to Herodotus and Diodorus the ancient Egyptians did something similar for a child being healed from an illness. In modern Egypt the fellahin give an offering of a lock of a child's hair encompassed in clay to a saint or a sheikh. Rituals can last for thousands of years and perhaps this is the remaining evidence of an ancient ritual.

The general concept of birth and regeneration can be interpreted through the comparative evidence provided by the corn mummies and fertility figurines, which illustrate the use of the mud and sunlight in order to promote growth and to invoke fertility upon the land of Egypt. Although the corn mummies are based on the mythology behind the god Osiris, their broad meaning can be applied to the clay balls through the importance of mud and sunlight from the sun god to strengthen the perception of regeneration in death and fertility in life. The presence on the 'ms' seal impression, meaning 'to be born', on ball no. 1 has obvious connotations to birth, and the inclusion of *ankh*, meaning life, could have similar connotations.

The model of rebirth is further strengthened through the depictions of the god Khepri and inferences made about him in the *Book of the Earth* and the *Book of the Night*. These examples highlight the connection between the fertility of the sun god and the fecundity of the dung beetle's ball. The use of mud symbolised the brood ball of the dung beetle, and consequently connected it to the god Khepri. The use of unfired clay/mud to create the clay balls may be a manifestation of this, as to fire the material would transform it into a hardened material, which would not reflect the intended symbolism. Furthermore, the seal impressions found on the clay balls portrayed images associated with fertility, such as lilies, or the impressions may have identified the person who required the invocation of fertility.

The depiction of the Netherworld in the *Amduat* as a sphere with dots may identify the symbolism of the clay balls of Group J. The dung ball could have a close relation to the disk shaped sun in scenes from tombs and was perceived to represent the sun's ability to conceive itself and be reborn. The reference to the 'opening of the ball' in the texts links this ritual closer to the clay balls by the inference that it was made of clay due to its presence on the potter's wheel. However, there is more evidence to link the clay balls with the fertility figurines, which are decorated with similar circular depressions, which, due the patterns positioning on the figures, may have represented a woman's womb: some examples are decorated with hair, and they are both found from the same time period and the same contexts. Both forms of artefacts are found in both mortuary and domestic contexts, and the evidence of parallels with concepts of fertility further supports this. Hair, as a consequence, became associated with fertility and is reinforced by the hair's ability to continuously grow.

This chapter has illustrated that every component of the clay balls has its associations with fertility, and as a consequence proves a connection rites of passage such as birth, death and rebirth through regeneration. With clay balls being found in homes, tombs, and

temples, it can be justified that they could have been used to give thanks for the life of a child and similarly to ensure a person survived their rebirth and journey to the afterlife. The next chapter will explore how the clay balls may have been used as a different type of offering, either as an offering to the deceased or a general offering to a deity or how they could have represented a contractual agreement.

CHAPTER 6 - CLAY BALLS AS CONTRACTUAL AGREEMENTS

AND OFFERINGS TO THE DEAD

6.1. Introduction

Death is a rite of passage for all humans and the ancient Egyptians are particularly well-known for the amount of effort invested in their burials and the rituals connected to it. This last chapter will explore Peet's article (1915b) that the clay balls served as a contractual agreement with a mortuary priest. From this idea I will discuss the possibility that the objects were a receipt for a financial transaction or contractual agreement, particularly as similar objects were used in this way in Mesopotamia. This chapter will directly address the primary research question in endeavouring to establish the function of the clay balls, and whether any of the types may have been used in this way.

Firstly, I will offer a detailed examination of the translation of the word *h̄tm* found on the clay balls in Type A, and thereafter discuss Griffith's theory for the credibility that they may represent an agreement made with a mortuary priest. I will then explore the connection with the Mesopotamian *bullae* and how it is a comparable parallel with some of the types of Egyptian clay balls. Since there is evidence for contact and trade between the two countries, Mesopotamian recording methods will be assessed to ascertain whether the Egyptians might have adopted Mesopotamian material culture. From here I will discuss the concept of marriage in ancient Egypt and how, regardless of its informal nature, there is a contractual element to it which may be related to the clay balls. The inclusion of hair in some balls may indicate a personal element to the official contractual binding of two persons. Offerings of hair are commonplace with many cultures both ancient and modern, and these examples may explain why hair had been placed within some of the clay balls.

Lastly, I will address the clay balls as an offering to the gods, which in ancient Egypt could be perceived as a ‘bargaining chip’ with the gods, when one closely looks at the way the populace address and converse with the gods. Communication with the deities and the dead, not only took this potential ‘contractual’ form, but may have also been conducted through the presentation of offerings. An Egyptian clay ball found in modern-day Israel is impressed with the word *imnyt* meaning ‘daily offering’ (ball no. 116). Daily offerings primarily consisted of food and the shape of the clay ball could suggest that this was representative of a daily offering such as bread (Bárta 1995; Samuel 1999: 6, 10; Worsham 1979). The possibility that the clay balls may have been an expression of mourning for a deceased loved one will also be explored.

A definition of the notion of contract is important to establish to allow an effective determination of possibility for each theory addressed. A contract can be simply defined as two or more parties making an agreement to do something or to abstain from it. Contracts may have been agreed verbally, possibly by shaking hands, with the exchange of gifts, or may have been recorded in written form (although contracts are not limited to these forms).

6.2. *htm*

Forty clay balls were found in a 5th Dynasty mastaba (mastaba 124) at Abydos and all but one of these balls bore the inscription of *htm*. Three balls from this cache were cut open by Peet (as discussed in Chapter 2 we cannot be sure which balls these were) and contents such as linen, reed or papyrus were found inside. Tassie (1996) primarily focuses on the examination of balls nos. 26, 27 and 28, as these are easily traceable because they were discussed in Peet (1915a). I have been able to locate a further two balls from museum collections (ball no. 74 and 75), but I am unable to find any satisfactory evidence to

pinpoint the current location of the remaining 35 balls found in the cache, nevertheless I have included them in the database because the number of balls present in the mastaba are significant. However, I have identified another ball with the *h₁tm* inscription dated to the 3rd dynasty and from Abydos (no. 74), which despite being mentioned in Peet's *Cemeteries of Abydos* publication, researchers have neglected to offer any further study on it.

Another ball from Abydos, ball no. 75, has no inscription but its surface is covered with what appears to be a grid pattern. The random placement of this grid design indicates that the impression was created by a stamp, as opposed to a cylinder seal. However, the same pattern is found in a continuous sequence on ball no. 27. Contrary to the other seal designs on the clay balls, such as those from Groups D-I, this particular design was impressed using a cylinder seal to create a uninterrupted pattern. The inscription was then added afterwards as it cuts through the pattern of the cylinder seal.

In the north-west corner of tomb R50 in Reqaqna a number of clay balls were found and dated to the 3rd-4th dynasty, which bear similar inscriptions to those found in the tombs at Abydos, as mentioned above (Garstang 1904: 32, 59; Peet 1915a: 8-9). The precise number of balls is not listed, but Garstang refers to two specific balls (ball nos. 105 and 106) which will be examined here. The inscriptions on the Reqaqna balls¹⁴¹ have been transliterated as *seten rekh* by Garstang (1904: 59), but no translation has been offered. After searching a number of different dictionaries, including Erman and Grapow (1940), Faulkner (1964), Hannig (1995; 2005), Lesko (1987), and Wilson (1997) the word *seten* can only be found in Lesko meaning "to make a distinction; to remove; to distinguish; to be eminent; to compare; to emulate; to keep company; part of the head" (1987: 117).¹⁴² However, the

¹⁴¹ Ball nos. 26, 27, 28, 74, 75, 76, 105 and 106 all originate from tomb R50 in Reqaqna, but there is no record which balls were used for Garstang's transliteration. The photographs from MET NYC for ball nos. 105 and 106 did not provide enough information to allow me to attempt a determination.

¹⁴² In Hannig: "in connection with wind" (1995: 781), but the meaning is not clear.

spellings for these words do not correlate with the inscription found on the clay balls in question.

The word *rekh* appears more often and its translation varies depending on the determinative present: Faulkner translates it to mean ‘copulate’ when combined with a phallic determinative (Faulkner 1964: 152); Erman and Grapow translate as ‘know’ with a scroll determinative (*Wb* II, 442); Hannig translates it to mean ‘to experience, to know’ (1995: 474); Lesko translates it as “to know, to be able, to be acquainted with, to take note, to attest, to succeed in, to be skill, to discern; to list; to know sexually; knowledge” (1984: 87). Lesko’s spellings vary for the different meanings, but all are accompanied with the scroll determinative. However, the determinative of the word on the clay ball is not clear, if present at all, thus no affirmative translation can be made.

The inscriptions found from 3rd-4th Dynasty Reqaqnah and 5th Dynasty Abydos (Figures 101 and 102) bear a striking resemblance to each other. The lack of correlation between the inscriptions on the balls and Garstang’s incorrect transliteration of *seten rekh*, combined with the close similarities of the two inscriptions between those found at Abydos and Reqaqnah, it is certain that all of the balls discussed here (ball nos. 26, 27, 28, 74, 75, 76) possess the same inscription. Therefore, these inscriptions match the spelling of *htm* and can thus be translated to mean ‘to make a contract’. The same conclusion is drawn by Peet (1915a: 9). Although the exact translation may slightly differ due to the accompanying fighting figures and crocodiles present on the Reqaqnah balls (Figure 102).

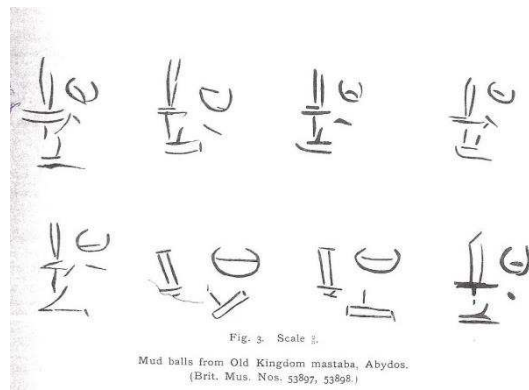


Figure 101: 5th Dynasty balls from Abydos (Peet 1915a: Pl. IV)

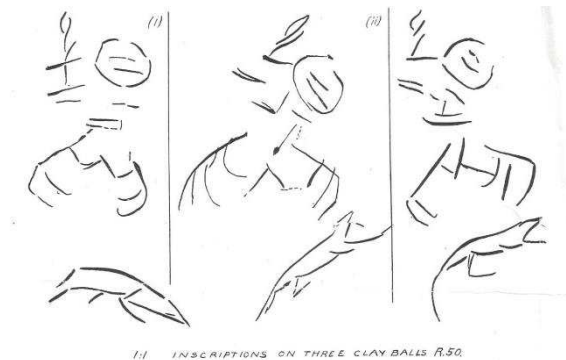


Figure 102: 3-4th Dynasty balls from Reqaqnah (Garstang 1904: Pl. XXX)

The primary differences between the two inscriptions are that the earlier balls are inscribed with additional symbols which appear to be two figures fighting, either two humans, or possibly quadrupeds, and a crocodile (Figure 100; Peet 1915a: 9). These accompanying images aid our understanding of the use of *htm* on this ball, and consequently they can be related to the later inscribed balls from Abydos. Nevertheless, the time difference between the clay balls from the 3rd and 5th dynasties makes the possibility of the alteration of the symbolism of the inscribed signs a valid consideration.

The figures fighting appear to represent quadruped animals more than bipedal humans, due to the angle of the spine of the creatures. Further analysis is difficult as there is little detail on the figure to identify a specific species although it is possible that it could represent an ungulate. Ungulates, such as donkeys, gazelle, and oryx, are well-represented

in ancient Egyptian art featuring as aesthetic elements, as the anamorphic form of a deity, or as an offering. The oryx,¹⁴³ like the crocodile, was associated with the god Seth, so it is possible that the quadrupeds depicted here may be connected to him (Abdi 2002: 206; Dick 2006: 268; Frankfurter 2004: 101; Pinch 2002: 192). These animals are not known to fight in this manner,¹⁴⁴ and gazelle and oryx are usually seen to be fighting with their horns rather than rearing up to fight with their legs. However, similar designs can be found on Middle Assyrian seals from Tell al Rimah, which show ungulates with their forelegs raised in the air fighting an opponent. Parker does suggest, however, that it is possible that the animals could be 'prancing' rather than fighting, but comparable designs found on Neo-Assyrian seals make it clear that they are fighting and are sometimes restrained by a central figure (Object numbers 125802 and 89673; Collon 2001: pl. XV, XXVII; Parker 1977: 257, pl. XXIX, no. 32a, XXX, no. 41). These figures may have represented particular persons, deities, myth or event, which is been invoked or remembered.

An alternative translation is available for *htm*, 'to seal' (*Wb* III, 350-2), which could be taken literally in that the clay ball may have been a form of seal, or that it may be referring to the sealing of a different material within the clay itself; in these examples the sealing of linen, papyrus or reed. These fabrics may have been written upon and details of a contract, or a transaction of trade may have been found upon them, but unfortunately this cannot be explored further due to these missing contents of these balls. An alternative could be that the fabrics possessed an inscription relating to a spell or may have had the owner's name written upon them. This meaning could also be relevant to those clay balls containing hair (Group L), which may have identified the person for whom the spell was needed. This could be applied also to Groups C-H, if the seal impressions were indicative of the owner of the clay ball. Alternatively these seal impressions may be a reinforcement of the *htm* 'to seal'

¹⁴³ The oryx became associated with more positive aspects in later pharaonic times when it became a symbol of regeneration (Huyge 2002: 201).

¹⁴⁴ Aime Readman and the staff at Longleat Safari Park 2016, personal communication, 29th July.

concept, which could be supported if these clay balls are found to possess contents, but until further studies are conducted neither theory is verifiable.


Previous studies, such as those by Peet (1915a; 1915b) and Tassie (1996), have only focused on the inscriptions found on ball nos. 26 and 27 currently located in the British Museum,¹⁴⁵ but Peet does mention that in total 40 balls were found at the site. I have located and included five more balls (ball nos. 74, 75, 76, 105, 106) from museum databases, which possess the same markings, but have not been included in previous scholarship, possibly due to the incorrect translation made when they were first discovered. The geographical area and time period from which these clay balls originate have not been discussed in previous scholarship, nor has any acknowledgment been made that these examples are only found in Upper Egyptian tombs belonging to the 3rd-5th Dynasties. This seems to be quite significant as ball no. 74 is dated to the 3rd Dynasty, as opposed to the later 5th Dynasty Abydos balls mentioned above, suggesting that this type of clay ball was either in use for approximately 300 years as a sustained practice, or was part of a ritual which reappeared at a later date.

6.3. An Agreement with a mortuary priest

Another theory for the function of the balls, particularly Type A, is that they served to contract a mortuary priest to conduct rituals for the deceased and ensure the delivery of offerings. Alternatively, Tassie argues that perhaps the clay balls containing hair were associated with the priests taking their vows, and this would also link with ball nos. 26, 27 and 28, which are inscribed with *htm* ‘to make a contract’, which he believes also associates with such vows (1996: 61). For the sake of cleanliness and purity, the priests would have all hair from their bodies removed and would perform special cleansing rituals to prevent lice

¹⁴⁵ Ball no. 28 is referred to in Peet (1915a; 1915b) and, although I have included it the database, I have been unable to find its current location.

and other ailments created by bad hygiene: “The priests shave the whole body every other day, that no lice or aught else that is foul may infest them in their service of the gods” (Herodotus II, 37; Godley 1960: 319; Sauneron 2000: 36). To add their hair to the clay balls would be a symbolic representation of the cutting of the hair that could have taken place at the same time as taking the priestly vows. However, our knowledge of the priestly vows are limited, with no explicit mention of them in the pharaonic textual record. The hair found within the clay balls could provide evidence contrary to this theory also, for the forensic investigation of the hair revealed that the hair belonged to a child and not to an adult. The waves present on the hair samples are consistent with a plait, such as the sidelock worn by the priests of Ptah, but, as discussed previously, the sidelock and other forms of plaits are worn by both sexes and of varying ages and statuses.

Peet, who originally had not been able to translate the meaning of the inscription, did suggest that perhaps the signs were forms of hieratic (1915a: 8), a cursive form of hieroglyphs. Peet later confirmed that the first two signs are indeed a form of early hieratic, with the remaining sign being unknown but a suspected early form of the sign  (1915b: 253). Later, Peet published an article where he examined the balls he excavated at Abydos and states how both Griffiths and Gardiner agree that the inscription does in fact read *h̄tm*. Peet proceeds to discuss the theory presented by Griffiths that the meaning ‘to make a contract’ refers to the confirmation of a contract arranged between the priest and the deceased regarding any funerary offerings made or future services to be provided. Griffiths’ theory surmises that the number of balls would thus reflect how many contracts had been agreed. Peet supports this theory and suggests that the cloth and papyrus found within the clay balls could have provided further details of the contract (1915b: 253-254).

Considering the size of the clay balls (3.54 cm-5.7 cm), it seems unlikely that any substantial details of a contract could have been written on a piece of linen or papyrus small enough to

fit into the artefact, but linen is easily rolled up tightly and therefore could have provided adequate writing space. Papyrus, however, is not as flexible to allow tight rolling, but a small amount could have been contained within the clay. Nevertheless, there is some debate about the material in ball nos. 26 and 27 because Peet refers to the material as 'reed' in one publication (1915a: 8-9), but then later publishes an article identifying it as 'papyrus paper' (1915b: 254). His identification cannot be checked because the clay balls he refers to are completely intact and there is no way he could have possibly examined their contents. Of the museums identified in this thesis as having clay balls in their collection, none possess a clay ball which could possibly be the artefacts which he studied. The current location of ball no. 28 is unknown to us also, and cannot be examined to determine if anything has been written on the linen, which may provide verification for Griffith's theory.

Griffiths' theory of a contract between a priest and the deceased is credible; yet, the presence of the crocodile and the fighting figures does not clearly fit into this theory. These seem irrelevant to the inscribed phrase, but may convey a danger to overcome in life. Crocodile attacks could result in a person's remains being unrecoverable, and without the preservation of a body the deceased could not hope to reach the afterlife. Further, crocodiles were a threat in the afterlife and are sometimes depicted as an enemy which the king or sun god needed to overcome (Kemboly 2010: 277; Pinch 2002: 106, 127). Apotropaic forces were, therefore, used in an attempt to prevent such attacks. Thus, the clay balls may have been used to defend against crocodile attacks in both life and death (see Chapter 4).

The only piece of evidence that may support Griffith's theory is the presence of a clay ball in the tomb of a possible priest at Zawiyet el-Aryan. However, this is based on the assumption that part of the stele which identifies the deceased as a priest originally came from the grave from which it was excavated and belonged to the person occupying the

grave. The clay balls found with it were only mentioned in the report, but with no further details provided. There is no support for hair being found within the balls, nor of an inscription on them. Furthermore, there is plenty of evidence to argue the contrary, including the most recent find of clay balls in the grave of children, not to mention the clay balls found in homes. Nevertheless, even with an inscription of *htm*, this would not be sufficient evidence to prove Griffith's theory (Peet 1915b) as it is based on the assumption that *htm* refers to a mortuary priest's responsibilities, for which there is no basis (Peet 1915b).

6.4. A Trade Agreement

Bullae, an artefact from Mesopotamia, were made from unfired clay and stamped with seal impressions and have a strikingly resemble Egyptian clay balls. These *bullae* may provide a possible explanation for the use of Egyptian clay balls. '*Bulla*' usually refers to an artefact generally accepted by scholars to be a form of envelope that was used to contain tokens (Schmandt-Besserat 1979: 19; Vallat 1986: 336; Shendge 1985: 62-63; Jasim and Oates 1986: 348) and displayed seal impressions or inscriptions, which would record a transaction that had taken place. However, the term *bullae* has been used to refer to a number of different types of artefact causing confusion in scholarship. Other artefacts referred to as *bullae* are the lumps of clay found pressed onto a document as a sealer (Ben-Tor 1991: 6; Sachs 1953: 167; Shiloh and Tarler 1986: 201) and balls of clay (which may not hold tokens or possess seal impressions). As with many poorly understood artefacts, these objects have been grouped together, instead of being considered separate entities, much like the Egyptian clay balls.

The definition used for *bulla* in this thesis will be clay 'envelopes' which contained tokens, following the majority of the scholarship available. The lumps of clay used to seal

documents, which are identifiable by the imprints of the document material that they once sealed, will henceforth be referred to as 'document sealers'. Furthermore, the balls of clay which show no signs of being a form of *bullae* or a 'document sealer' will be referred to simply as 'balls of clay'. This will allow a clear understanding of which type of artefact is being referred to.

Bullae are dated from the fourth millennium BC (Schmandt-Besserat 1979: 25) into the mid-to late second millennium (Jasim and Oates 1986: 349). Later forms of these artefacts were solid clay balls with signs marked into them, otherwise known as tablets (Schmandt-Besserat 1979: 25). An example of such a sign is an incised circle with a cross, which represented a sheep, and had previously been characterised in token form as a disc with a cross (Schmandt-Besserat 1979: 25). The concentrated focus on the *bullae* in this section is primarily due to the copious amount of research centred on these artefacts, with many scholars debating that these are the earliest examples of writing. These envelopes have been interpreted as a form of receipt or as a way of recording a dispatch of products (Oates 1993: 416).

The contact between Egypt and Mesopotamia at this time needs to be examined to ascertain whether the clay balls may have been an adoption of a Mesopotamian trade agreement, or whether the Mesopotamians adapted and used an Egyptian idea. Firstly, the Mesopotamian *bullae* first appeared from the middle of the fourth millennium (Nissen et al 1993: 125), and the earliest clay balls found, ball nos. 111-114, have been tentatively dated to 5300-3000 BC (Predynastic period). However, a firmer date can be established for the clay balls from Abydos and Beit Khallaf, which are dated to 2686-2613 (3rd Dynasty).¹⁴⁶ During this period the city of Ebla in Syria became a hub of commercial trade, and the

¹⁴⁶ Evidence for the dating of the Old Kingdom is based primarily upon the Turin Canon and the Manetho king list (Malek 2003: 84), whereas the Predynastic period is mainly based upon Petrie's relative dating system (using pottery classification as a guide) and the Palermo Stone, which lists kings prior to the 1st Dynasty (Bard 2003: 57; Midant-Reynes 2003: 42-43).

Mesopotamian influence at this time would have allowed a direct exchange of goods with Egypt (Wright and Pardee 1988: 150).¹⁴⁷ If both Mesopotamian *bullae* and Egyptian clay balls were used for the same function, it would not be possible to ascertain where the artefact originated from due to the similarities in the origin dates. At the same time Buto, the Egyptian centre of sea trade, would have provided contact with the western states, and would have begun the chain of internal trade within Egypt with the goods acquired overseas (Watrin 1995: 1218). Generally, the later the clay balls are dated they are found further to the south, suggesting perhaps that the clay balls did spread through trade moving along the Nile. However, the infrequency in numbers of the artefacts and the extensive periods of time between them does not support this theory, and it seems likely that the clay balls served different functions depending on time and place.

Secondly further connections with Mesopotamia can be seen on the animal designs of the quadrupeds found on ball no. 76 from Beit Khallaf have remarkable similarities to the designs found on Assyrian *bullae* and tablet sealings (Parker 1977: 257, pl. XXIX, no. 32a, XXX, no. 41). If they both depict the same animal, it could be argued that these similarities are coincidental as a consequence of independent artists recording the unnatural behaviour of the animals. Furthermore, although there is evidence of trade between the two regions at this time, it seems unlikely that the use of clay balls will have travelled as far south as Abydos. Yet, with no evidence of such objects at northern Egyptian sites other than Giza, it seems improbable that this was a spread of ideas. Neither does it seem likely that such an isolated use of an object could be introduced to an entirely different culture without firstly spreading to the north of Egypt. Additionally the *bullae* are found in settlement sites (Robson 2007: 42), contrary to those found at Abydos, but with a strong possibility of the clay balls serving multiple functions this discrepancy could be explained.

¹⁴⁷ Further detailed discussion regarding the relationship and Mesopotamia can be found in Chapter 3.

Bullae are hollow clay balls, up to the size of a tennis ball (Vallat 1986: 336) that contained tokens that documented a transaction that had occurred. The *bullae* were made by pressing fingers into a ball of clay to make a hollow recess where multiple tokens could be stored and were then closed off using clay. However, placing tokens inside clay obviously makes it impossible to see them, so in the event of a clarification of the transaction the *bullae* would need to be broken to extract the tokens within. In some cases, to counteract this, images of the tokens would be recreated on the surface of the ball, by inscribing using a tool or a finger. In the case of the Susians, styluses of different sizes would be used to create circles and notches on the soft clay to represent any *calculi* (tokens) within the clay ball (Vallet 1986: 336). Alternatively, the token itself would be pushed into the soft clay to make an impression (see Figure 102). It is for this reason that many *bullae* have conical or circular marks to represent the cone-, sphere- or disc-shaped tokens within the clay ball (Schmandt-Besserat 1979: 25; Schmandt-Besserat 1983: 118; Vallet 1986: 336).



Figure 103: *bulla* with *calculi* (Nissen et al. 1993: 127)

The fact that so many of these *bullae* are still intact, only a few examples have been found broken, suggests that the need for these tokens to be retrieved as evidence for a contract was infrequent (Jasim and Oates 1986: 350; Lieberman 1980: 352). Griffiths argues that the Egyptian balls found in tombs at Abydos, Reqaqnah and Beit Khallaf, were a declaration of contract between the deceased and the mortuary priests (discussed above). These balls were excavated intact, some with the inscription '*htm*' i.e. 'to make a contract' on the

surface (Peet 1915b: 253; Ball nos. 26, 27, 28, 74, 76, 105, 106). It is possible that these, like the Mesopotamian examples, had been used to store information of a contract, rather than used as a reference, especially as they had been buried and not left in a place convenient for referral. However, this contract may be related to funerary rituals, which will be discussed later in this chapter. This could be reinforced by the discovery of similar items at Abydos, identified by Schmandt-Besserat (1978: 6). However, she does not indicate the publication or the museum number in order to allow me to compare them directly.

Seal impressions would then be pressed upon the outside, presumably to allow those involved in the transaction to authenticate the document (Schmandt-Besserat 1979: 25). A similar cylindrical Hittite artefact, known as the double *bullae* has a seal impression at opposing ends of the item and may further support the argument that two people were involved in communicating the meaning of the artefact by displaying the signature and counter signature of both involved in an agreement or dispatchment of a product (Güterbock 1973: 145).

The tokens, otherwise known as *calculi*, found within the *bullae* in varying amounts, have a range of different shapes (Figure 104), and consequently different meanings. They were used from the early 8th millennium up until 1500 BC and were geographically spread in settlement sites from western Syria to as far as Iran (Robson 2007: 40). The different shapes may include spheres, discs, cones, tetrahedrons, bioconoids, ovioids, cylinders, coils, triangles, crescents, parabola, rectangles, rhomboids and zoomorphic figures to name but a few; in Uruk there have been twenty five different shapes of *calculi* identified (Schmandt-Besserat 1979: 21; Shendge 1985: 67). Usually about 1 cm in size and rod-, sphere-, disc- or cone-shaped these calculi could represent numerical units such as ten, one hundred and so on (Vallet 1986: 336; Shendge 1985: 65-66; Jasim and Oates 1986: 348; Schmandt-Besserat

1983: 117-8).¹⁴⁸ More specifically, Lieberman designates calculi as objects which were used to produce impressions on the surface of the *bullae*, and refers to any other token as a 'small clay object' (1980: 340-1). Alternatively, Friberg (1984) and Schmandt-Besserat (1984) argue that the various shapes not only represented a numerical value, but also the specific form of produce being traded (Jasim and Oates 1986: 350). At the site of Nuzi a cuneiform inscription on the surface of one bulla indicates that each single pebble found within it represents a singular animal, such as a sheep which were represented on a token using an incised circle with a cross (Schmandt-Besserat 1979: 25). Clay eventually replaced stone as calculi in the Near East, as clay could be easily shaped variously to represent different numbers or objects. It is, however, possible that stones could have been carefully selected to represent different values using shape or size (Lieberman 1980: 342-3).

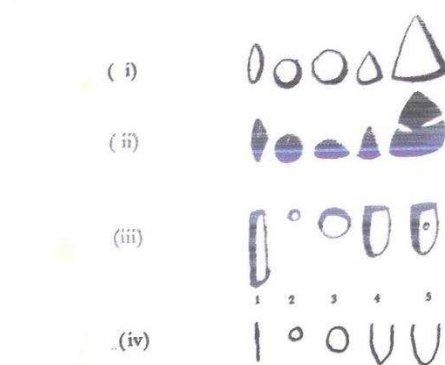


Fig. 1. i-iii Susa Calculi found inside the clay-balls; iv Harappa number signs.

Figure 104: Different shapes of *calculi* (Shendge 1985: 65)

In other examples of *bullae*, the *calculi* inside have been pierced. This has led Schmandt-Besserat to suggest that these were originally strung together to represent a particular transaction, and the *bullae* surrounding them would thus be used as appropriate surfaces to press seals upon, thereby authenticating the artefact as a legal document (Schmandt-

¹⁴⁸ This theory is argued against by Schmandt-Besserat (1984: 60), who believes that this form of recording would be 'useless'. However, this is counter-argued by Jasim and Oates, who provide a comparative example of the use of 'tally-sticks' as a form of receipt, which began in medieval England and continued until 1826 (1986: 350).

Besserat 1979: 26). Alternatively, it has been suggested that the tokens were used as part of an abacus-like object, or played an amuletic role (Schmandt-Besserat 1979: 22). However, these ideas are not expanded upon to permit an understanding of these theories and are disagreed with by Liebermann. Liebermann believes there are too many different types of tokens to have been part of an abacus, and suggests that there is not enough evidence to show these artefacts had any religious or apotropaic value (1980: 355). A lack of wear has also been noted, which consequently does not support that the *bullae* was either an abacus or an amulet.

So far, no examples of Egyptian clay balls have been found to contain any tokens, but Group J has circular impressions upon them, and the inconsistency of the number of the impressions between each of the balls could indicate a counting or identification system. This could reinforce the idea of a financial transaction or trade contract and the number of impressions could symbolise the quantity of items like the *calculi*. The inscription *htm* found on the balls in Group A, are the most likely of the Egyptian clay balls to parallel the Mesopotamian examples, and their contents of linen and papyrus or reed could further strengthen this theory.

The incorporation of these materials into the clay balls could represent the commodity which had been traded, similar to the tokens symbolising sheep, and their preservation in the tomb was to keep record of it, perhaps as an exhibition of wealth. Furthermore, the seal impressions detailing the cartouche of the king's could have represented goods traded in his name. On the other hand, this contract may have been with the mortuary priest, as suggested by Griffiths (Peet 1915b: 253), and the contents of Group A (papyrus, reed, linen, burnt material) clay balls may have had further information about the agreement reached written upon it. Unfortunately, the lack of preservation of these linen and papyrus samples means that this is difficult to determine.

Other ball-like objects from Mesopotamia are document sealers, which are lumps of clay with indented grooves, indicative of cord, which would have been used to tie the lump to an object to secure it. Impressions found on the back of these lumps of clay suggest that they were attached to objects that were made of cloth, papyrus or wood, such as bags, rolls or boxes (Ben-Tor 1991: 6; Sachs 1953: 167; Shiloh and Tarler 1986: 208). The use of these sealers indicates that the document was official in nature, just as wax sealings were used in our recent past. To open the document one would have to break the seal (Shiloh and Tarler 1986: 201) and to find the seal already broken could have indicated that someone had tampered with the record.¹⁴⁹ Similar examples of these can be found in ancient Egypt to secure both documents and tomb entrances.¹⁵⁰ Schmandt-Besserat argues that the Mesopotamian form of sealing is a development from the use of *bullae* and tokens, and would eventually progress into writing (1979: 24).

It may seem unlikely that the Egyptian clay balls could have been used for a similar economic function as the *bullae*, as they are dated to a time when writing existed, so coding using symbols was not necessarily needed. Although Egyptian sealings, like these examples from Mesopotamia, are found in ancient Egypt, and this form of transaction receipt may have been a recording technique for the illiterate community where less than 1% of the population were likely to be literate, and a large proportion of these people would only be familiar with the most frequently used hieroglyphs (Piacentini 2001: 190).¹⁵¹

Sachs draws upon a number of scholars who come to the conclusion that these lumps of clay were used to fasten documents with royal seal impressions (1953: 168). The association between the seals and royalty is based upon similar seal impressions which had

¹⁴⁹ Such as those found outside of Tutankhamun's tomb (Kaper 1993: 143-4).

¹⁵⁰ For example, EA27574 (British Museum website: www.britishmuseum.org/research/collection_online. Accessed 24th March 2015).

¹⁵¹ Literacy increased to 5% of the population in the New Kingdom (Baines 1983: 584-86; Baines and Eyre 1983: 65-96; Bryan 1996: n.14; Lesko 1990: 656-67; der Manuelian 1999: 285; Piacentini 2001: 190).

been found on documents detailing royal gifts and charters (Sachs 1953: 168). However, this research is outdated or is not a universal rule, for those found at the city of David, Israel, are found to contain personal names in the impressions, usually with floral or geometric designs, or in some cases accompanied by a mythological being. At this site there are also four examples of exclusively pictorial seal impressions of what may be a symbol of a deity, griffin, weighing scales, and an altar (Shiloh and Tarler 1986: 202).

Document sealers such as these are also found in Egypt and appear to have been an essential part of the bureaucratic system, which were used by officials to secure storage, record the distribution of products, and record tax collection (Newberry 1984: 19). At the beginning of their use in Egypt, owning a seal would also be a statement of status and authority (Thomson 1994: 23), but later became a way for illiterate persons to mark their products (Newberry 1984: 7, 23). At 'En Besor in Palestine, *bullae* with poor impression of Egyptian style (but made in Palestine) were found on closed vessels originally bound for Egypt as part of taxes or trade (Ben-Tor 1991: 6). Locally made *bullae* are also found at the site of Kerma in Sudan, where they attempted to copy the Egyptian administration despite having no Egyptian settlers at the site. This influence probably originated from traded produce (Ben-Tor 1991: 8; Kemp 1983: 129, 163; Reisner 1923, 1-3: 38-39, pls. 2-3; 4-5: 76-79, 81, figs. 168-6). It is worth noting this fact when examining Egyptian style artefacts found at non-Egyptian sites, as it would be easy to assume that the style would prove its origin, without attempting to analyse any potential influences through trade and interaction. Clay balls at Beth Shan (ball no. 116 and 117) could in fact be evidence of a ritual spreading to different cultures. However, the presence of Egyptian population and Egyptian religious buildings (James 1966: 4) could be evidence of a ritual being performed by an Egyptian who lived outside of Egypt.

Document sealers existed in ancient Egypt, but are much smaller and flatter than the Egyptian clay balls (e.g. EA27574), making it unlikely that the balls served this function. Furthermore, there is no evidence that the clay balls actually contained documents. The nearest example of this are those found at Abydos which may have contained documentary evidence on the papyrus and linen placed within the clay balls, but there is no evidence to prove that these fragments were written on. Neither are there any more examples of clay balls containing material which could provide written evidence within them. In addition, if the clay balls were a form of document sealings, archaeologists would have discovered significantly more of them, due to the high frequency of use, like the other clay seals found in ancient Egypt.

6.5. A Marriage Contract

Evidence of marriage in ancient Egypt is sparse and we do not have any information regarding wedding rituals or ceremonies that took place to mark the event. Yet, there is a corpus of material regarding a contractual element of marriage, consisting primarily of agreements regarding the ownership of wealth in a conjugal relationship. A discussion concerning how marriage is perceived by the ancient Egyptians will be included in this section, in addition to whether the clay balls could have represented the contractual elements of the marriage, particularly the clay balls inscribed with *h_{tm}* 'to make a contract' and those with locks of hair inside of them.

Marriage can be defined as a 'social institution' which includes a trade of wealth or property and has to correspond to local law and custom (el-Amir 1952: 140). This is certainly the case with many cultures, but not all marriages require ritual and contractual aspects to be adhered to, to be considered valid. For instance, although there is an

economic element to a Roman marriage, there were not any legal requirements regarding matrimony until the time of Augustus (Fantham et al. 1995: 302).

Evidence of ancient Egyptian marriage primarily originates from the Late Period, but is often used to explain marriage in the New Kingdom. This time difference of 600 years is bound to affect the accuracy of these analyses. Further to this, the ancient sources do not directly refer to a marriage taking place, perhaps they considered it self-evident and thus did not require recording, or that they did not take place at all. As a consequence, most of the texts record unusual behaviour such as cases of adultery or separation. An expectation of marriage is implied; however, through the lack of representations of wives in tomb scenes, and even in their absence does not indicate the bachelorhood of the deceased (Parkinson 2008: 118; Roth 1999: 37-45, Swinton 2003).

Ancient Egyptian marriage must be defined without integrating modern western ideals, which have been used as the basis of the analysis of the available evidence (Toivari-Viitala 2001: 49, 55, 84). A modern western marriage often consists of a ritual ceremony, witnessed by numerous members of the participants' families, and then entails the bride and groom signing a legal contract to agree to abide by the rules of marriage, as determined by the country where the marriage has taken place. Often a conjugal living situation then proceeds, or continues, after the wedding takes place. In more recent times a conjugal living situation prior to marriage is a frequent occurrence in western societies and can occur for many years before a marriage takes place, and is sometimes legally considered to be a 'common law marriage'.

This idea of a common law marriage may have taken place in ancient Egypt, as suggested by Janssen (1982: 127, n. 37) and the belief that no wedding or formal ceremony took place is supported by a number of scholars including Valbelle (1985: 229), Robins (1988: 66; 1999: 158), and Lesko (1994/5: 16-17). The use of homonyms for the hieroglyphic words

indicating marriage,¹⁵² wife,¹⁵³ and *h3j* husband¹⁵⁴ (*Wb* II, 475) make it difficult to determine the precise nature of marriage in ancient Egypt. Toivari-Viitala argues that terms such as ‘marriage’ and ‘common-law marriage’ are too general and based upon Western interpretation of legal and “formal acts” (2001: 49). To some extent this is unavoidable and similar vernacular is typically used in anthropological studies. However, behaviours and acts from ethnographic examples could be used as a comparison and, although a legal framework would not exist, formal acts are almost always included as the establishment of a conjugal relationship.

A form of oath related to marriage may have been made at Deir el-Medina, however, where written promises regarding rights to property were recorded on ostraca such as O. Bodleian Library 253, O.Varille 30, and O.Petrie 61 (Toivari-Viitala 2001: 86, n. 513). According to the *Instructions of Ptahotep*, there was at least the expectation for a husband to provide his wife with clothing, food, ointment and love (Lichtheim 1973: 61-82; Johnson 1999: 169; Toivari-Viitala 2001: 54, 56). The existence of contracts does not seem to have been an essential component of the establishment of a ‘marriage’, but could be drawn up at any point of the marriage (Johnson 1994: 113, 125, 127; Pestman 1961: 43-48) and indicates a choice taken by some in order to gain legal security over their property and wealth. For men, this may have been to ensure that their portion of wealth was entailed to the children they sired, and in addition to this women may have wanted to ensure financial security should the marriage end.

Marriage does not seem to have been necessarily based around love, but in some cases there is the element of economic considerations as well as love, as suggested in Papyrus Harris 500 (New Kingdom): “my heart [desires]... your property (?) as the mistress of your

¹⁵² Words and titles used for marriage and marrying are discussed by Toivari-Viitala (2001: 70- 83).

¹⁵³ Words and titles for wives, such as *nbt pr* and *hmt*, have multiple meanings preventing a clear designation as discussed by Toivari-Viitala (2001: 15-48).

¹⁵⁴ Again potential other meanings for this word (*Wb* II, 475).

house, while your arm rests on my arm, for my love has surrounded you” (rto. B 5, 3-5, 4; Fox 1985: 22). Texts from Deir el-Medina intimate that gifts were given as part of a marriage, possibly as a form of dowry (O. Berlin P. 12406, P. DM 27, P. Turin 1966) and in other cases agreements about property rights are alluded too (O.Petrie 18, P. Turin 2070, O. Bodleian Library 253, O. Varille 30, O.Petrie 61) (McDowell 1999: 33; Toivari-Viitala 2001: 71, 81-83, 86).

Marriage is considered to be a rite of passage during which the majority of cultures perform rituals to protect and celebrate the person’s advancement into the next stage of life. Nothing so clear cut exists in ancient Egypt, and although the *Instructions of Ani* (New Kingdom) encourages men to settle down and have a family young (Lichtheim 2006: 136)¹⁵⁵ there is no definitive age for either sex to marry, but for girls it could be suggested that marriage marks their transition to adulthood as is often the case (Chester Beatty V [vso. 2,5]: Gardiner 1931: 50, no. 2; Toivari-Viitala 2001: 19, 51, 52, 71). For the most part gifts are given or offerings are made to ensure good luck and fertility through the next stage of a person’s life. For example, according to Herodotus young ancient Greek men and maidens, in particularly those from Delos, offer their hair to the Hyperborean maidens before they marry (4.34; Kron 1998: 211). Without evidence of a formal event prior to marriage in ancient Egypt, it is impossible to tell if offerings were made to celebrate this change in situation. There is, however, an example of offerings being made in order to increase fertility in the marriage, such as phallic offerings, which were believed to have been given to the goddess Hathor by women to increase their chances of becoming pregnant (Pinch 1993).¹⁵⁶

¹⁵⁵ *iri n=k hmt iw=k m ḥdd sb3=s r irt rmt(t)* “Make for yourself a wife when you are a youngster and teach her to be a human/woman”.

¹⁵⁶ For further discussion of fertility see chapter 5.

Infertility was a legitimate reason for divorce in ancient Egypt (Eyre 1984: 99), as was also the case in Babylonia (el-Amir 1952: 143) and Rome (Treggiari 2004: 38). Hair clay balls could have been kept in homes and tombs as a reminder of vows or commitments made to a significant other, and for the same reasons were placed in tombs. The strong evidence that the hair originally belonged to children (discussed in chapter 2) could represent the fulfilment of the expectation of the production of children in a marriage. Contrary to this argument, however, is the non-existence of hair clay balls with an inscription 'to make a contract' to support this theory nor is there any evidence of a formal contract involving expectations within a marriage. Neither is there any evidence to support the argument clearly that hair was given as a token of marriage, as on Delos.

The clay balls inscribed with 'to make a contract' on their own do not provide enough evidence to support that they had a link to marriage, but there are three to possess pieces of papyrus or linen (ball nos. 26-28). These materials may have provided further details of the marriage contract, like those found on ostraca and papyrus in the New Kingdom (Toivari-Viitala 2001), however, the balls are dated to the 3rd dynasty, almost 1000 years before with the contents being too small to have written anything substantial upon it. We cannot assume that the marriage contracts would have existed so long before the surviving evidence and, as a consequence, this theory is lacking substantial supporting evidence.

The lack of evidence for marriage ceremonies does not necessarily mean that none existed, as it is likely that such customs were well-known and considered self-evident, and thus recording such an event was not required (Toivari-Viitala 2001: 51). The existence of documents which allude to payment of a dowry or agreement of property rights do not necessarily indicate that a marriage contract must have existed in order for a marriage to be considered valid (Toivari-Viitala 2001: 72), but should be considered an economic precaution taken should a marriage be dissolved. Other than the short phrase 'to make a

contract' found on the balls, there is no further information to connect them with any form of marriage ritual. Perhaps the pieces of papyrus and linen found in the balls were the perfect medium for containing further details of a contract regarding distribution of marital wealth, but this information is likely to be completely lost to us.

6.6. An Offering to Deities and Ancestors


Offerings were given to deities and ancestors by the ancient Egyptians frequently to convince the inhabitants of the other world to facilitate their wishes in exchange for the offerings presented (Szpakowska 2003: 24). These offerings would include meat, water, wine, milk, and vegetables (Turin 2029; El Shazly 2015: 148; The Stela of Sathor; Parkinson 1991: 137). The wishes would include good fortune, or to avenge a wrong that had been done to them. This can be interpreted as a form of contract due to this expectation for a trade in goods for a service between the living person and the deity or ancestor they are addressing, as can be seen in the *Letters to the Dead* (Bomann 1991: 68, 75; Czerwik 1999; el-Leithy 2003). This practice took place between the Old Kingdom until the seventh century BC (El-Leithy 2003: 304).

This section will explore the evidence available to suggest that the clay balls may have originally served as a form of offering. This includes an examination of the clay balls from Beth Shan (ball nos. 116 and 117), which were found near an Egyptian temple and inscribed with *imnyt* meaning 'daily offering', then proceeding to discuss the clay balls' similarities to bread offerings, which as a staple food was one of the most frequent of offerings (Bleiberg 1995: 1379; Forman and Quirke 1996: 26; Leek 1972: 129).

The use of hair as a form of mourning offering will be examined due to the recurring evidence of hair locks found within tombs. To begin with, an exploration of the link

between hair and mourning, in both Egyptian and other cultures, and the symbolism behind cutting the hair off will be addressed, before studying the possible reasons for the ancient Egyptians to deposit these cut locks in tombs and graves. The presence of some hair balls within tombs could be explained through the use of these offerings.

One form of offerings left in tombs and temples were bread or replicas of loaves made of clay (Bárta 1995; Samuel 1999: 6, 10; Worsham 1979). James, who wrote about the excavations at Beth Shan, is presently the only scholar to have proposed that the clay balls found may have served as bread offerings. The site of Beth Shan lies in Israel, but four clay balls were excavated from within an Egyptian temple (James 1966: 16-18, 29), and one has a seal impression in Egyptian hieroglyphics, which can be translated as *imnyt* 'daily offering'. James only labels these finds as 'model bread offering' and does not expand upon his theory, and he does not mention those balls found in Egypt (James 1966: 18, 324, Fig. 105). An example of bread offerings includes the *sḳr-t-ḥdt* 'striking (consecrating) the white bread' ritual which is performed for the god Thoth. The bread, which represented the Eye of Horus, was given in offering to Thoth to protect the king (Pyramid Text 666¹⁵⁷; Faulkner 2007: 277; Stroot-Kiraly 1989: 158; Wilson 1997: 939).

James interpreted ball no. 116 as a form of bread offering and records that the clay ball's surface was stamped with fourteen impressions all reading *imnyt* meaning 'daily offering' (Figure 105). There are several symbols missing from the complete spelling of 'daily offering'  (Wb I, 83-4) and although some hieroglyphs were often dropped from the word, these were often symbols where the phonetic value did not need to be compensated for (Gardiner 1957: 50-53). This was not always the case, however, and some abbreviations did leave out certain signs with important phonetic value.

¹⁵⁷ "O King, I present you with your bread just as Horus presented him with his eye... I provide you with this bread of yours just as Horus provided him with his Eye, and this... here is your *w3g*-offering" (Faulkner 2007:277).



Figure 105: Ball no. 116 (27-10-452) (James 1966: 18)






There are a significant number of scarabs with the same seal impression designs as ball no. 116 (Figures 106 and 107; Gorton 1996: 24, no. 41; 62, no. 3, 65-6, 70), but the interpretation of the word varies. Petrie classified these scarabs as being the name of the god Amun, whereas Tufnell believes them to be an example of a good luck formula that are obscure in meaning and used as amulets (1984: 124). Good luck formulas would use symbols such as *nefer* , *maat* , *ankh* , *neb*  and the uraeus , to strengthen the magical power of an amulet instead of spelling a particular word, making Tufnell's theory plausible (Gorton 1996: 63). As discussed in chapter 4 *nefer* and *ankh* symbols are found on some of the clay balls and thus may have further meanings due to their association with the good luck formula.



Figure 106: Seal impression with the same design as ball no. 116 (Petrie 1925: Pl. XII)



Figure 107: Seal impression with the same design as ball no. 116 (Tufnell 1984: 120)

Grain was the main form of payment for employment, because bread was an important staple food in ancient Egypt and, as a consequence, was frequently made as offering to

deities and deceased relatives (Bleiberg 1995: 1379; Forman and Quirke 1996: 26; Leek 1972: 129). As such it represented all foods which were vital for life, both on earth and in the afterlife. Bread was also used as sustenance for the sacred animals, such as cats and ichneumons (Darby et al. 1977: 503). The importance of bread is affirmed by the depictions of bread making,¹⁵⁸ model bakeries found within tombs¹⁵⁹ and depictions of the food on 'soul houses'¹⁶⁰ (Figure 108; Tyldesley 1995: 105; Darby et al. 1977: 503; Leek 1972: 128, pl. XXIX, XXX).

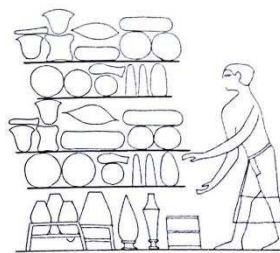



Figure 108: The tomb of Rekhmire, Thebes (Wilson 1988: 17)

Although the most common depiction of a bread loaf was pyramidal in shape (known as the *t-hd* bread) shown resting on the palm of the offeror's hand,¹⁶¹ or representing the hieroglyphic word *di* meaning 'to give'  (Gardiner X8), there were in fact many different forms of bread types and shapes in ancient Egypt. A list of offerings to Amun-Ra from Ramesses III names a number of different types (Darby et al. 1977: 503; Breasted 1906: 134-5) and in tombs some wall scenes show the bread making process and the variety of bread shapes made (Bárta 1995: 23, 33; Worsham 1979: 10). These shapes include spherical shaped loaves and can be supported by the preservation of real bread loaves from sites such as Deir el-Medina (Figure 88; Darby et al. 1977: 512, 514, 521).


¹⁵⁸ One example is a painted wooden group of figures making bread from the 6th Dynasty (EA55730, British Museum).

¹⁵⁹ 20.3.12, MET museum.

¹⁶⁰ EA32612, British Museum.

¹⁶¹ Although this pyramid sign is shown to represent a specific form of bread used in offerings, it is also used to represent bread generally (Darby et al. 1977: 517).

Representations of bread loaves, made from either clay or stone, were used as a substitute for offerings in tombs. These would last longer than the real thing and were less likely to attract creatures, which could destroy the contents of a tomb. In addition, clay and stone substitutes would enable the offerer to have their name inscribed upon them. James' theory has the precedence for being the original function of the clay balls; on a physical level they look as if they could be model bread offerings as they are clay, spherical and are placed in tombs. Group A are found in tombs and have *h̄tm* 'to make a contract' inscribed upon them which, following Griffiths' theory, may have been a record made with a mortuary priest, who would have been responsible for ensuring the offerings were made for the deceased (1915b: 253). If the clay balls were a form of bread offering, this theory could also be applied to the clay ball that was found in a temple (ball no. 116).

Mourning is another aspect that could be considered as contractual. There are many links between hair and mourning in ancient Egypt, even the word for 'mourning', *ḥkb*, uses a determinative that depicts hair  (Lurker 1980: 56; Gardiner 1957: 618). The words for 'mourner' (*ḥkby*) and 'mourning woman' (*ḥkby*) use the same determinative also (*Wb* I, 34), and in the "Dream Book" one of the dreams which refers to hair growth is interpreted by Szpakowska to be a sign of mourning¹⁶² (Szpakowska 2003: 83-4; Fletcher 1995: 76), providing a clear link between hair and death.

As part of the mourning process of the deceased, professional female mourners would be hired to express the family's grief at the passing of a family member and they would be shown with dishevelled hair (Tyldesley 1994: 132), weeping and throwing dirt over their heads (Teeter 2011: 142). Harris discusses the possible type of mud that this refers to and surmises that it is a form of dust (1961: 199), rather than a clay-like substance which the

¹⁶² This suggestion is based on the previous couplet referring to mourning and the inclusion of the hair determinative (D3) (Szpakowska 2003: 83-4).

balls have been made from. In this case we can discount this dirt as providing any potential symbolism to the clay balls.

Hair is used as a dramatic way of grieving, as part of the deceased's funeral. Women (or women hired for such a purpose, would unplait their hair and leave it unkempt (Tyldesley 1995: 132, 154; Wickett 2010: 159) or would throw it over their faces. Examples of this can be found in the New Kingdom tombs of Nakht (TT.161), Haremheb (TT.78), and Nebamun and Ipuki (TT.181) (Fletcher 1995a: 75). This type of scene can be found in other societies also, including the Cantonese, whose married women rub their hair against the deceased's coffin and do not wash their hair until the mourning period has ceased (Watson 1999: 173).

Faulkner suggests that the use of the hair determinative for the word 'to mourn' could bear "reference to the disarray of the hair of the mourning women in funeral scenes" (Faulkner 1981: 9). In chapter 17 in the *Book of the Dead*, one goddess is mourning, who states "I was Isis when you found me, whilst my hair hung dishevelled over my face and the hair of my head was ruffled" (Roberts 1995: 136). There is a link between hair and mourning in connection with the goddess Isis' grief over the loss of her husband-brother Osiris.

In the 'Songs of Isis and Nepthys', a performance in celebration of the Osiris myth, the two goddesses are referred to as *hnsktyt*, 'she who has braided hair' (Faulkner 1964: 173), and their loss of Osiris is shown through the expression of their hair: "they mourn for thee in dishevelment, the hair of their heads disordered" (Faulkner 1936: 137-8, line 9.21; Lloyd 1976: 153). According to Plutarch's *De Iside et Osiride*, Isis cuts off her hair as a symbol of her grief, but this is not mentioned in any of the Egyptian texts, so this is likely to be due to Greek influence (Griffiths 1970: 54, 90, 139, 314-315; Fletcher 1995a: 76). Other Greek sources refer to the cutting of hair as part of the mourning process, such as Isaeus (Humphreys 1980: 98) and the *Iliad* where Achilles cuts his hair at the death of Patroklos (Homer, Il. 18.22-27; Brown 2013: 111, 114, 118). During the Roman period, it is reported

by Firmicus Maternus, a classical author, that the Egyptians would shave off their hair as a sign of mourning for Osiris¹⁶³ (Firmicus Maternus, II.3, trans. Turcan 1982: 78), representing Isis' own grief and lamentation (Lichtheim 1980: 152).

Although depictions of mourning predominantly show women expressing grief, there are examples of men doing so also. Most notable would be Akhenaten, who is shown with a beard as a demonstration of his mourning over his daughter's death (Szpakowska 2003: 84).¹⁶⁴ Herodotus tells us that "Egyptians are shaven at other times, but after a death they let their hair and beard grow" (II, 36; Godley 1960: 317), which also occurs in representations of mourners (Desroches-Noblecourt 1947: 185 ff; Lloyd: 152). The Ptolemies (Liv, XLIV, 19) and Romans (Liv. XXVII, 34, 5; Plu. *Cat Mi* 53; Plu. *Ant.* 18; Suet, *Caes* 67; *Aug* 23; Lloyd 1976: 152) also did the same.

A clay pot containing hair found at a royal tomb site at Naqada,¹⁶⁵ and a similar find in a private tomb at Gebel Silsilah¹⁶⁶ (Scharff 1929: 12; Müller 1960: 6; Nachtergaele 1981: 599) could support Tassie's theory that the clay balls are a progression of this form of hair offering (1996: 61). The placing of hair within clay may have been considered an effective way of conserving hair, or providing a surface for inscriptions or stamps for the invoking of a god.

Fletcher surmises that cut hair must have played an important part of the funerary process due to the relatively numerous examples of its presence and how closely they are usually placed to the deceased within the burial. (1995a: 78). Fletcher extends her theory by suggesting that the deposition of hair offerings was symbolic of regeneration that ensured

¹⁶³ *"In adytis habent idolum Osyridis sepultum, hoc annuis luctibus plangent, radunt capita ut miserandum casum regis sui turpitudine dehonestati defleant capitis"* (Firmicus Maternus, II.3, trans. Turcan 1982: 78).

¹⁶⁴ The deliberate growth of facial hair as a visual display of mourning is a common action in several cultures mourning practices, including the Cantonese (Watson 1999: 173).

¹⁶⁵ Berlin Inv.No. 13937.

¹⁶⁶ Berlin Inv.No. 13938.

the deceased would be reborn in the entire original form (1995a: 424), a theory also proposed by Desroches-Noblecourt (1963: 253) and could be further supported with hair's ability to continuously grow. With a large proportion of examples of hair being left in tombs, it is difficult to suggest otherwise. Many of these hair offerings, however, are unprovenanced and often not mentioned in excavation reports (Fletcher 1995a: 78). This could offer an explanation for the function of the clay balls with hair found in a mortuary context (Group Lii), but without conclusive evidence of hair offerings being found within homes, the function of the clay balls from Group Li (clay balls with hair found in a domestic context) is not clear.

An explicit link between hair and mourning is obvious here and there is physical evidence of offerings of hair made in a mortuary context. In Tutankhamun's (1336-1327 BC) tomb and with the mummy of Ramses V (1147-1143 BC), there are locks of hair amongst their wrappings: Both of these kings' bodies had short or shaven hair, and although the hair may have been cut from them after death, it is equally possible that the hair may have belonged to someone else.

Also found in the tomb of Tutankhamun a lock of hair was contained within a miniature coffin, which was inscribed with the name of his grandmother, Queen Tiye¹⁶⁷ (Carter 1933: 87-88, Pl. XXV). It is quite likely that the hair did originally belong to his grandmother, but the purpose for it being included in the grave goods is not clear. Perhaps it was something he kept in life to remind him of his grandmother, much like we do today with items which remind us of a passed loved one and like the Victorian hair lockets (Geerken 2004: 377; Gitter 1984: 942). This theory is supported by Carter (1933: 86-88), Lucas (1989: 31), Reeves (1990: 168-9), Nachtergaele (1980: 243; 1981: 601) and Naguib (1990: 18). Or

¹⁶⁷ This lock of hair has been used to identify the body in KV 35 as Queen Tiye, due to the similarity of the hair, however the archaeological evidence suggests that the body is actually a relation of Amenophis II (Ikram 1998: 124).

perhaps the ancient Egyptian belief of the power of ancestors as intermediaries to the gods meant that an artefact related to a family member was expected to be buried with them to aid the progression to the afterlife (Desroches-Noblecourt 1963: 253; Szpakowska 2008: 138).

The link between hair and mourning has been well presented in ancient Egyptian art, not only in the use of words (for instance 'mourning'), but also in representation of mourning scenes. These can to some extent be supported by the much later statements made by classical authors. The hair clay balls found in tombs (Group Lii), as Tassie suggests, may be a form of mortuary offering to the deceased to ensure rebirth in the afterlife. The multiple examples of hair being left in tombs could suggest that the inclusion of such material in the burial goods was deemed important. The examples of hair found in simple balls within baskets could be a modest version of the lock of Tiye's hair found in Tutankhamun's tomb, which had its own mini-sarcophagus. Alternatively, instead of being a form of offering, the hair left in tombs may have been an expression of the mourning that the living had to endure since the passing of their loved one. The presence of hair balls found in homes could potentially be explained with the suggestion that the hair contained within it belonged to a deceased loved one, and that the balls were used as an emblem of remembrance.

6.7. Conclusion

The interpretation of the word *htm* is crucial to understanding its presence on the surface of the clay balls. The first translation considered was 'to make a contract': Griffiths' theory (Peet 1915b: 253-254) that the clay balls represented a contract made between the deceased and a mortuary priest is based on a number of assumptions and scanty evidence.

There is no textual evidence in the Egyptian sources to indicate that the deceased would have needed written evidence to ensure the services of a mortuary priest. In fact, the only evidence to link the clay balls to priests directly is the appearance of a clay ball in the grave of a priest. However, the identification of the grave's occupant is based on a statue inscribed with the title of a priest, without sufficient evidence to conclude that the statue did in fact belong to the deceased or is connected to the clay balls. Neither is there any further information provided about the appearance or details of the clay ball found within the grave itself. Nevertheless, Griffiths' theory does not need to be totally discounted, as the clay balls could have served a priestly contractual function, but it is prudent to suggest that the clay balls may have served as a record of a transaction in a more general sense, which could then explain the presence of balls in homes from a later date.

There is potentially significant evidence for the clay balls being connected to trade as a contractual agreement due to the comparable examples from Mesopotamia. *Bullae* are physically similar to the clay balls; made from clay, either solid or hollow, and found with inscriptions, indentations or other forms of markings made by tools or fingers upon its surface. These markings are largely believed to be the recording of trade and exchange of products. The tokens, *calculi*, are thought by size and shape to indicate different products and values. There is no evidence which immediately discounts the clay balls from serving a similar function, particularly as they emerged in both countries at about the same time, for the circular impressions may have easily indicated value, and the seal impressions may have identified the buyer or seller in the transaction. The clay balls found in graves may have served a similar function, but instead of trade for goods they may have represented trade with the gods to receive daily offerings or to reach the afterlife.

The possibility that the clay balls may be representative of marriage contracts is restricted due to the limited information available. Firstly there is no evidence of a formal ritual of

marriage in ancient Egypt, secondly the remaining evidence of contracts could have been drawn up at any time during a conjugal relationship and thirdly the material within the clay balls may not have been large enough to contain the contents of a contract. These contracts, however, could explain their presence in a tomb, as often these contracts over marital property and wealth were for occasions of either divorce or the death of one of the partners.

The second translation considered was 'to seal'. This translation is less specific and leads to a wider field of interpretation, but it allows more flexibility in understanding its original meaning in the context of the clay balls. 'To seal' could have a similar meaning as 'to make a contract' since it may be understood as a form of closing an agreement, either with a form of trade or as an agreement reached with a god in the form of an offering. The explanation of an offering would allow the relevance of the crocodile and the figures found engraved on ball no. 76, which could represent a particular person, deity, myth or event, which is being either invoked or remembered.

'To seal' could be taken literally to mean that an offering was sealed within the clay ball, and the use of seal impressions on the surface of the clay could be to enforce the protection of the offering inside, or to identify the offerer. If the hair locks found inside were considered offerings, the clay could be considered a protective seal for an offering which could have great symbolic and emotional meaning. Hair in particular would need protecting, as it was believed that, if an enemy possessed such a lock, then they could direct black magic at the owner of the hair.

The clay balls in general, however, may have been considered an offering in themselves. Ball no. 116 from near an Egyptian temple in Beth Shan possessed the seal impression of *imnyt*, meaning 'daily offering', and due to the slightly varying shapes of the clay balls they might have represented different forms of bread offerings. The seal impressions found on

other clay balls may have signified the offerer, and the circular impressions found on the balls from Group J may have represented the quantity of bread that was being represented. This theory is not plausible for the clay balls containing hair, linen, and papyrus or reed, however, and the theory is based on the evidence provided by one clay ball, which may be an anomaly, or it served different functions.

The use of hair in the clay balls may be representative of an expression of mourning, however, as there are numerous occasions of hair being found within a tomb or grave, and examples like the lock of Queen Tiye which may further enforce this theory. The numerous hair offerings found in tombs¹⁶⁸ could make it believable that the clay balls served a similar function, but there are some explicit differences between the two forms of artefacts; they are encased in clay and are either inscribed or pressed with a seal. This seems to indicate the importance of the extra information provided. Furthermore, the discovery of clay balls within homes, as well as tombs, makes it seem more likely that they would have served as a form of contract or receipt, rather than an expression of mourning. However, this could in fact indicate different usage depending on type. The large proportion of clay balls found at the site of Amarna, which is renowned for its copious amounts of everyday artefacts, in comparison to the relatively small amount of clay balls found within tombs, could support a focus on a daily life function, but these proportions may be skewed due to the preservation and excavations of the sites.

¹⁶⁸ See Fletcher (1995) for a listing of these.

CONCLUSION

One of the aims of this thesis was to compile a database of the clay balls currently known. The clay balls' database includes 162 artefacts, out of which 35 were not mentioned in previous scholarly works and have been rediscovered through my research. To gather the data I searched online museum and excavation databases, contacted archaeologists, read excavation notes and excavation reports. Creating the database has also made clear where errors have been made in museum records or published works, particularly with the misidentification of 21 intact clay balls thought to contain hair, when their contents cannot possibly be known without further scientific research.

Following on from the compilation of the database, I was able to distinguish similarities between individual balls, and so it has been appropriate to create a typology to group together artefacts with the same characteristics. This allowed for a clear identification of the common elements they shared and gave a more precise type of clay ball to aid discussion. For instance, balls with hair found in a domestic context and dating to the 18th dynasty fall into one type (Type Fi), whereas 3rd dynasty balls with organic contents and inscribed decorations are categorised as another type (Type A).

The typologies I developed helped me to further analyse the balls uses and meaning. For example, decoration on objects can enhance our understanding of ancient Egyptian symbolism; thus categorising the balls according to similar decorations found on them was essential and has allowed a more efficient analyses process. The themes present included flora and fauna (Types F and G respectively), abstract and geometric patterns (Types H and K), and hieroglyphic words (Type D). Decorations were primarily made from seal impressions, which were found on 26% of the clay balls, and their placement on the objects do not follow one distinct arrangement. In some cases the seals have been pressed

randomly over the ball (ball nos. 1, 7, 9, 19, 42, 43, 49, 108, 115, 116) and on others they are around the diameter of the ball and over the sides (ball nos. 8 and 18).

Aside from decoration, the balls were also classified in the typology according to determined contents. Overall the contents of 133 clay balls are currently undetermined, but as research continues and CT scanning takes place, more knowledge about their contents will become known. Due to the focus on the contents of the balls in previous scholarship, it is a significant characteristic which has been considered, particularly because all of the known contents consist of organic materials. Although we know that at least 6 clay balls have no contents whatsoever, there are 19 balls with contents: two containing linen (ball nos. 28 and 107), one with string (ball no. 51), two containing reed/papyrus (ball nos. 26 and 27; the exact material is not clear from the published documents), one with organic material (ball no. 123), and 12 containing hair (ball nos. 2, 5, 6, 13, 14, 25, 52, 57a, 70, 91, 94).

Hair is the most frequent content found in the clay balls; however, only 12 balls- 7% of the total balls found- contain it, which strengthens my argument that previous scholarship has wrongly focused its attention on them. The hair itself is only a few centimetres long, and varies in shades from brown to red, and since the hair was cut, no follicles were available for further scientific testing, but forensic morphology has established the hair to have belonged to a young child (Arnst 2006), as originally indicated by Crompton (1916). Waves can be seen on the locks of hair indicating that the hair was probably cut from a braid, which may be indicative of a sidelock. These were primarily worn by children. The hair balls themselves are found in two specific locations and time periods; in dwellings at Amarna during the 18th dynasty (Type Fi) and in tombs of Lahun during the 20th Dynasty (Type Fii), which significantly narrows their period of use. Interestingly, none of the hair clay balls

found so far have any form of decoration present on them. Discerning the variations of design indicates that the clay balls served separate functions.

Not only do the decoration and manufacture of the balls indicate a variety to be explored, but location and context further suggest regional understanding. Chapter 3 detailed the provenances and findspots of the clay balls, where known, to determine whether this may have affected their function. Clay balls were found in dwellings (only during the 18th Dynasty and exclusively at the site of Amarna) and in tombs (throughout the period of clay ball use), and in a couple of circumstances they were found near temples. There is no direct correlation between any of the sites where clay balls were found to suggest that the places were especially meaningful (although Abydos did have a high religious significance); thus it is likely that the balls were only found at these sites due to preservation, rather than any other factor. The only apparent pattern present is that the clay balls from the south were dated early and then as we move up to northern sites they are dated to later periods; this could be due to cultural spread facilitated by the flow of the Nile or due to coincidental preservation.

Aside from geographical location, the context of the clay balls can aid in understanding their function. Out of the fifteen tombs with clay balls as part of the grave goods, there are only two tombs which we have any details about the inhabitants; one was found in the tomb of a child at Amarna, and the other is found at Zawiyet el-Aryan and is suspected to have been a priest of Ptah. There is no evidence for these two people having had anything in common which would explain the presence of clay balls in their tombs. There is no known correlation between the balls either, as there is no elaboration in the excavation publication to explain the characteristics of the clay balls found at Zawiyet el-Aryan. The one found in the South tombs at Amarna (ball no. 124) had a 'lid' on the clay ball (possibly

suggesting it may have contents), making it physically different from the majority of clay balls, the only exception being ball no. 33 which also appears to have a 'lid' (Type K).

There is an overall multifunctional use of the clay balls serving as an apotropaic device, but there are also clear specific uses for each type. Types H (3 balls with abstract designs), I (3 balls with blank seals) and N (no distinguishing factors) functions are still unknown to us due to the limited information on these clay balls. Type M is vastly different to all of the other clay balls in its Roman dating (if correct), the clays unusually high organic content and pinkish colouring, which is then overlapped with a white coating. I strongly suspect that these served an entirely different function and may even be completely unrelated to the clay balls. Table 10 illustrates the findings of this thesis and indicates the function of each type of ball based on the theories discussed throughout this thesis. Following this each theory shall be discussed and conclusions on each will be shown, in order to present a greater understanding of the functions of the clay balls.

Type A	inscribed and contain contents such as linen, papyrus or reed.	Contract- communication with dead, marriage or trade
Type B	display the name of deities, either through the form of paint or seal impression.	Execration/protection
Type C	seal impressions of royal names	Execration/protection
Type Di	seal impressions of hieroglyphic words in a domestic context from the 18th Dynasty.	<i>ankh</i> - protection/ birth. <i>ms</i> - birth
Type Dii	seal impressions of hieroglyphic words in an Egyptian temple in Israel from the 20th Dynasty.	<i>imnyt</i> - bread offering
Type E	seal impressions with <i>wedjat</i> and <i>nefer</i> signs.	protection
Type Fi	floral seal impressions.	Offering for rebirth/ for the gods
Type Fii	specifically lotus seal impressions.	Offering for rebirth
Type G	faunal seal impressions.	Offering for rebirth/ for the gods
Type H	seal impressions made up of abstract designs.	Unknown
Type i	blank seal impressions.	Unknown
Type J	distinctive pattern of circular impressions.	Offering for birth/rebirth
Type K	painted geometric patterns.	Container for a hair offering?

Type Li	have no decoration, but are found to contain human hair. found in a domestic context from the 18th Dynasty.	Offering in thanks for life of a young child
Type Lii	have no decoration, but are found to contain human hair. found in a mortuary context from the 20th Dynasty.	Offering of mourning and rebirth
Type M	appear very different from the rest of the clay balls and possess a white coating.	Unknown- likely to be a different artefact
Type N	no distinguishing factors, such as decoration or known contents.	Unknown

Table 10: *Functions based on the typology*

In terms of execration, it was shown that there were two types of ritual to destroy an enemy or dispel evil. When I began my research I had suspected that the clay balls may have been related to execration rituals due to the lack of clay balls in the archaeological record and through Stevens' suggestion (2007: 113) that they may be associated with the 'striking of the ball' ritual: one type of ritual represents the ball as an embodiment of evil, whereas in the other form the ball is used as a weapon against evil.

There are two examples of clay balls mentioned on monumental art; the 'striking of the ball' ritual and the throwing of the ball ritual. In the first, the ball symbolises the entity Apophis and is struck away, whereas in the latter clay balls are thrown towards dangers approaching from the cardinal points. Both rituals take place to protect the sun god and are found within temple complexes. The 'striking of the ball' ritual, primarily discussed by Borghouts and Kousoulis, involves the pharaoh striking away a ball which represents the evil eye of Apophis, an entity which attacks the sun-god Ra (usually between the 7th and 12th hours of night). This ritual appears on temple walls a total of 19 times and the examples are dated to the New Kingdom (Luxor and Deir el-Bahari) and to the Graeco-Roman period (Edfu, Dendera, and Philae). The scenes depict a king striking the ball with either a bat or a club in the presence of a goddess (either Tefnut, Sekhmet or Hathor) who takes the title of 'The Eye of Ra'.

The difference between the New Kingdom and Graeco-Roman examples of the ritual are prominent; the New Kingdom examples refer to the ritual taking place in order that the pharaoh “may be given life”, whereas the Graeco-Roman examples had more aggressive tone in the text, in particular, where the ritual requires the absolute destruction of the evil eye (the clay ball), instead of deflecting it, by using vocabulary such as “hacked up”, “smashed to the ground”, and “battered” (Borghouts 1973: 134- 135). This required destruction could explain the small amount of surviving clay balls, yet this could also be explained by the conditions for survival in the archaeological record for sites of continuous occupation. Further evidence linked to the ‘striking of the ball’ ritual is through the presence of balls impressed with pharaohs’ names (Type C), particularly ball no. 125 which named Tuthmosis III, who is present on the Deir el-Bahari version of the ‘striking of the ball’ ritual. The impressions of the scorpion on ball no. 49 and crocodile on ball no. 108 could support this theory through the creatures’ association with Apophis.

Likewise, there are spells which describe the clay balls as representative of an evil which needed to be execrated. The corpses of Napata text represents the balls as an embodiment of an evil force, like the those used in the ‘striking of the ball’ ritual, but the two texts are dissimilar as the former does not mention the need to destroy the balls. The Graeco-Roman spell is dated later than the ‘striking of ball’ ritual (New Kingdom) and the differences between the two leads to the conclusion that it is the balls’ functions which changed over time, possibly in accordance to the beliefs of the society using them.

Alternatively, the clay balls are portrayed as a weapon against evil rather than the evil itself. This can be seen explicitly in the throwing of the balls ritual, where the king and the god’s wife are depicted throwing clay balls towards the cardinal points. The symbols on the clay ball artefacts enforce this perception of protection through the presence of seal

impressions of king's and deities names, *ankh*, *wedjats* and other hieroglyphs connected to good luck formulas (ball nos. 39, 40, Type B and Type E).

Although ball nos. 116 and 117 were found near a temple in Beth Shan, in addition to ball no. 110 found at a Hathoric shrine in Dendera, a large percentage (47%) of balls were found in the homes of ordinary people. This led me to investigate whether any spells used by lay people existed which may have indicated their use. Consequently, the evidence that I found showed correlations with the rituals described on monumental art.

For example, the earliest of these spells, the Brooklyn Papyrus (Middle Kingdom), details a formula for protection against snakes, which are not only dangerous to mortals but also to *maat* as the creatures were associated with Apophis. In this spell, clay balls are thrown towards the cardinal points, exactly like the throwing of the ball ritual. In the texts of the Brooklyn Papyrus and the throwing of the ball ritual the balls are used as a weapon against danger and evil. Similarly another spell, found on the Harris Magical Papyrus (19th-20th Dynasty), describes the throwing of a clay egg towards a danger residing in the water. Again the clay object is used as a weapon, and is destroyed in the process. The spells are both dated prior to the throwing of the clay ball ritual (25th Dynasty), which could indicate that it originated from the domestic rituals described on the Brooklyn and Harris papyri, particularly as the former is closely correlated to it.

Arnst explores the possibility of the clay balls served a magical function, and suggests that perhaps the clay balls were placed underneath beds to offer protection during the night. A number of clay balls were excavated from rooms designated as 'bedrooms'; however, these rooms appear to have been multifunctional and thus may not support Arnst's theory.

As a rite of passage, the balls appear to have been used to symbolise separation from one stage of life to another. I examined Tassie's theory (1996) that the clay balls served as part

of the 'tying of the fillet' ritual, which was an Egyptian rite of passage that took place during puberty, possibly to indicate a child's change of status to adulthood. However, the forensic evidence shows that the hair found in the balls was most likely from a much younger child, making unlikely that the clay balls were associated with the tying of the fillet ritual. Consequently, it was logical to research into rites of passage for birth and young children that involved the cutting of hair. This is common place in a variety of cultures, such as in modern India with the Chudakarma, the *'aqiqa* with modern Arabs, the Upsherin with modern Jews, and in ancient Greece with the *Apatouria*, where hair cutting rituals were essential for the acceptance of a child into a community and to provide an offering to give thanks to a deity.

Herodotus and Diodorus narrate a similar late Egyptian ritual to us, where a lock of hair was cut, weighed against silver and then given as an offering to a temple. A modern Egyptian ritual also existed, which involved cutting the hair from the head of a child, surrounding it with clay before the clay ball was then given as an offering (either to a saint or sheikh) to give thanks for the life of that child. This ritual is chronologically much later than the clay balls I examined, but it has striking similarities to them. Furthermore, the tufted hairstyles of the modern Egyptian children have shown a close resemblance to the hairstyles of ancient Egyptian children. This ritual may be the remains of an ancient Egyptian rite, which has undoubtedly altered through time and through the influence of different cultures.

Protection was required for many elements of ancient Egyptian life, particularly regarding the dangers of childbirth and the early years of life. Type Di balls (3 balls in total) are found in Amarna homes, supposedly with some coming from 'bedrooms' and are impressed with hieroglyphic words such as *ankh* (life), and *ms* (to be born), and these seem to directly link with birth and the protection of life. Further to this the 12 balls in Type Li, which do not have decoration, but do contain the hair of young children, which could support this

theory, particularly with a number of ethnographic parallels which incorporate hair cutting into rites of passage.

Giving offerings for a successful birth may have had associations with fertility. Hair offerings have been found at the temple of Osiris at Abydos in request for fertility, because of his ability to father a son after death, and his control over the Nile inundation which brought the mineral rich fertile clay soil to the banks of the river. This same clay soil was used to create the clay balls, in addition to the Osiris bricks and beds, which were planted with grains and given as an offering. Additionally, clay and hair has an association with the god Khnum who created people from clay and gave them life, as well as the ability to make “hair sprout and tresses grow” (Lichtheim 1980: 112), reinforcing the connection between clay, hair and fertility.

Indentations in a circular pattern on the clay balls (Type J) have close similarities to those found on fertility figurines, both of which may be representative of a women’s womb and may have invoked fertility for the persons who owned it. The findspots of Type J are unknown, but there are 75 other clay balls found within homes, some of which may have contained shrines, enabling a lay person to invoke fertility.

Regeneration was a process closely connected to birth; one’s rebirth into the afterlife was considered to be just as perilous, and the tomb acted as a womb to ensure the deceased’s safe delivery into the next world. Hair’s connection to rebirth through its use in mourning, both in the disheveling of hair for funerals, and cutting hair as a form of grief, meant that it was an appropriate offering for the deceased and there are numerous examples of locks of hair being left in tombs and within mummy wrappings. The clay balls (Type Lii) may have been an advanced form of this type of offering, as originally suggested by Tassie (1996).

The rebirth of Ra, the sun god, holds significance in the interpretation of the clay balls, aside from nightly battle with Apophis. In the morning the sun god takes the form of a dung beetle (Khepri); this is due to the behaviour of the insect, which rolls dung into a ball and out of which its offspring emerges. The Egyptians did not realise that this is how the beetles reproduced and according to Plutarch they believed that the beetles were all males and created themselves, and thus reflected the sun god's own creation. The name of Khepri, *hpr*, means 'to become', further reiterates this belief. As a consequence, Khepri is described in the Cult-Theological Treatise and depicted in the Book of Earth in Ramesses VI's tomb as emerging from a ball. A similar depiction can be seen in the 12th hour of the Book of Night, in which Khepri is shown emerging from ball, and the scene has the phrase "opening of the ball".

Lilies also reflect the sun god's daily cycle, through their re-emergence every morning from the depths of the waters where they reside. Often in tomb scenes the dead are shown smelling the flower of the lily, and thus has been closely linked to rebirth. Further to this, the solar cycle of the plant is also reflected in other solar gods, such as Horus and Nefertem, who, when shown with lily flowers, are depicted as children. From this, I argue that the clay balls could reflect the powers of the sun god to be born and to be reborn, and thus aid a deceased person through their own rebirth. Although these scenes are likely to have only been seen by the elite, the general concept of the birth of the sun and its association with the behaviours of the dung beetle would have been known by all. This would explain why sun-dried mud was used to create them and would explain many of the inscriptions and seal impressions present; for instance, in the use of *ms*, 'to be born' and the presence of lily impressions. Further to this, the 5th and 10th hours of the *Amduat* depict a scarab holding aloft an oval of dots representing the Netherworld, and thus the indentations on Type J could have also represented the Netherworld.

There does not appear to be a clear link between the clay balls and fertility, in the sense of ensuring conception, due to the lack of explicit evidence. However, the discovery of clay balls in homes could mean that they were used as an amulet for birth, in addition to being placed in tombs to protect one's rebirth into the afterlife, supported by the circular indented patterns present on Type J, which represented the Netherworld, as well as the pregnant womb of a woman.

There is also evidence that they balls were used by people as contracts (Type A); *h̑tm* 'to make a contract'. This translation had previously been established by Peet for the 5th Dynasty balls from Abydos (ball no. 26, 27 and 28) which have contents of linen, and papyrus or reed. These materials could have originally displayed further amount of details of such a contract, but the small size of the inclusions would have meant that only a small word, or even a simple symbol, would have fit. I have also identified that the same inscriptions are present on the 3-4th Dynasty balls from Reqaqna (ball nos. 105 and 106).

Griffiths' forwards a theory that the clay balls served as a contract with a mortuary priest to ensure the deceased was provided with the offerings he/she required for sustenance in the afterlife. This theory could be credible due to the existence of New Kingdom balls with the inscription *imnyt*, 'daily offering', which have been interpreted as bread offerings and may even explain the seal impressions on the Amarna balls exhibiting images of flora and fauna (Type F and G), such as quails and gazelles, which were common forms of offerings.

Presenting deities and ancestors with offerings could be construed as a form of contract, in which goods were traded in return for a request. Certainly the balls from Beth Shan were meant as offerings, for they were found near a temple complex and were impressed with the word *imnyt* (Type Dii). As discussed, in Chapter 6 the balls may have been representative of bread. This substitute of bread was to provide the deceased with sustenance in the afterlife and was frequently offered to a deity or ancestor, for example

the *skr-t-ḥdt* 'striking (consecrating) the white bread' ritual would be given to Thoth for the protection of the king. The seal impressions on other balls could substantiate this potential function due to the impressions of hieroglyphs used in the good luck formula, such as *nefer* and *ankh*, which are often used on amulets.

There is no explicit evidence, however, to indicate that the contract was agreed with a mortuary priest specifically. There could be any number of types of contracts which this inscription may refer to, such as a trade agreement or a financial marriage arrangement; the presence of clay balls in the tomb of a possible priest at Zawiyet el-Aryan could in fact imply other obligations that a priest may have to follow, such as vows, but in the New Kingdom there is no evidence for this, and more importantly, the ball is uninscribed, meaning there is no mention of a contract.

Other historical evidence useful for the interpretation of the clay balls includes a similar artefact from Mesopotamia called a *bulla*. This artefact has never previously been compared with the Egyptian clay balls, although the thought is briefly mentioned by Schmandt-Besserat (1978: 6) and there does seem to be plausible link between the two. The *bullae* were used as a receipt for a transaction to prove that an exchange of goods had taken place. They usually contained *calculi* (small objects, often geometric in shape) and often would have impressions of the *calculi* on the outside of the *bulla* as well, to symbolise and count the number of products traded without having to break the clay. Additionally, animals could be represented in small clay figures which were found inside the *bullae*. However, at present, clay balls have not had smaller objects representing animals or quantities, found within them, but the seal impressions of fauna may be evidence of displaying the purchased/sold product. Alternatively the indented circular impressions may have indicated quantity, thus serving a similar function to the *bullae*.

Another alternative is that the clay ball contract may have been related to marriage, which, although there is lack of evidence of ancient Egyptian weddings, there is evidence of financial agreements between couples. Although this could be further supported by the hair found in Type L balls, which may have represented the persons involved, the hair is too young for this to be associated with marriage, or any rites of passage or separation connected to it. Ancient Egyptians, however, did make bargains with their deities and would propose to exchange offerings in return for a favour they wanted. Perhaps the clay balls were a contract with a deity to ensure the life of a child or for them to grant safe passage to the afterlife. Hence, we see from the study that the balls could have had more than one function, which can be determined through content, context, date and decoration.

One theme which runs through all of these theories is the amuletic aspect of the clay balls, for example being used as an amulet against evil forces, to invoke the gods (such as an offering against disease) or to protect during life and rebirth. The only exception to the amuletic theme are those which have connections to the Mesopotamian *bullae*.

PROSPECTS FOR FURTHER RESEARCH

There are a number of prospects for further research; firstly, looking into more excavation sites (including future excavation reports) to determine whether there are more clay balls to be discovered; secondly, to CT scan all of the balls with unknown contents to ascertain whether hair balls are found in alternate locations and whether any tokens, such as *calculi*, are found inside; thirdly, if further hair is found, follicles may be present allowing scientific study, such as D.N.A to take place; fourthly, the hair strands in the clay balls could be further analysed to discover any issues with diet and disease. If so, this would strengthen the theory that the clay balls were used as an amulet against disease and death,

particularly in the case of early child death. Fifthly, an intensive study of the fingerprints found on the clay balls could indicate if the size of the fingerprints were created by adults or children, which could have a significant impact on the interpretation of the clay balls.

CONCLUSION

The study has contributed significantly to the understanding of the clay balls, as the most thorough research conducted on the artefacts to date with a complete database and typology, combined with a discussion involving all of the previous suggested theories, as well as providing new theories about their function. It has contributed to our awareness of the symbolism of clay, the contents found within the balls, the ball shape itself, and the hieroglyphic signs and words present on the outside of the artefacts.

Consequently this thesis defines a number of texts as related to execration rituals involving clay balls, including the 'striking of the ball' ritual, the throwing of the balls ritual, and a variety of spells. These execration rituals widen our understanding of magic within both ancient Egyptian lives and their religion. The study has also expanded our understanding of rites of passage, particularly involving young children and their hair. Furthermore, it has shown that there is no archaeological evidence to support the theory that the Egyptian children cut their hair at puberty; although it is implied in texts. It has also increased our perception of Khepri and the symbolism surrounding him as a dung beetle and as a form of Ra. It has also embellished our understanding of offerings as contracts, and the different forms these contracts may take. Overall, this whole thesis negates Peet's belief that the clay balls are insignificant and that they did not warrant further study. In opposition to this claim, I have demonstrated that these seemingly inconsequential objects were important to numerous aspects of daily life in ancient Egypt.

APPENDICES

1. Database (attached at end of this thesis)
2. Grouping

Table 11: Database of Type A

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (gm)	Contents	Provenance	Context	Date
26	Inscribed	<i>htm</i>	4.74	91	Fragment of reed, possibly papyrus	Abydos	Mastaba 124 (cemetery D)	5th Dyn.
27	Inscribed/ Seal Impression	<i>htm</i> and stamped grid impression	3.54	39	Fragment of reed, possibly papyrus	Abydos	Mastaba 124 (cemetery D)	5th Dyn.
28	Inscribed	<i>htm</i>	-	-	Very small piece of linen	Abydos	Mastaba 124 (cemetery D)	5th Dyn.
74	Inscribed	<i>htm</i>	3.8	45	Small piece of burnt material- wood, reed?	Abydos	-	3rd Dyn.
75	Seal impression	Stamped grid impression	3.8	29	-	Abydos	-	3rd Dyn.
76	Inscribed	<i>htm</i> and crocodile	5.7	175	-	Beit Khallaf	Tomb R50	3rd Dyn.
105	Inscribed	<i>htm</i>	5.5	-	-	Reqaqna	Tomb R50	3rd-4th Dyn.
106	Inscribed	<i>htm</i>	4.5	-	-	Reqaqna	Tomb R50	3rd-4th Dyn.
123	Inscribed	Inscription illegible	5	105	Organic Matter	Lahun?	-	Late MK



*Ball 26 and 27 (BM53897 and BM53898;
Photograph: A.Hammett, courtesy of the
British Museum)*



*Ball 74 (6202.a; Photograph: A.Hammett,
courtesy of Manchester Museum)*



*Ball 75 (6202.b; Photograph: A.Hammett,
courtesy of Manchester Museum)*



*Ball 76 (6302; Photograph: A.Hammett,
courtesy of Manchester Museum)*



*Ball 123 (UC7237; Photograph: A.Hammett,
courtesy of Petrie Museum)*



*Ball 105 and 106 (20.2.49 and 20.2.50;
Photograph: A.Hammett,
courtesy of Metropolitan Museum of Art)*

Table 12: Database of Group B

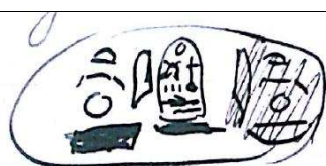
Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
35	Painted	Name of goddess Serket brushed on in cursive hieroglyphs	3.2	32	-	-	-	Late Period
37	Stamped	Cartouche of Akhenaten flanked with the name of the god Aten	-	-	-	Amarna	-	18th Dyn.
115	Stamped	Falcon headed figure with reed hieroglyph	4.3	68	-	-	-	-
126	Stamped	Seal Impressions of seated king holding a non-identified spectre. Cartouche of Ra?	4.4	-	-	Amara West, Nubia	E13.8.3, context 4673	Rammesside Period



Ball 35 (UC61432; Photograph: A.Hammett, courtesy of Petrie Museum)



Ball 115 (1973.9.286; Photograph: A.Hammett, courtesy of Liverpool Museum)



Ball No. 37 (29/397).
(Amarna Object Card 1928-29, TA.OC.28-29.397;
Image courtesy of the Egypt Exploration Society)

Table 13: Database of Group C

Ball No.	Type of Decoration	Decoration description	Diam (cm)	Weight (gms)	Contents	Provenance	Context	Date
36	Stamped	Cartouche of Tutankhamun	-	-	-	Amarna	-	18th Dyn.
37	Stamped	Cartouche of Akhenaten flanked with the name of the god Aten	4.2	-	-	Amarna N.S.	-	18th Dyn.
93	Stamped	Cartouche of Akhenaten?	-	-	-	Amarna M.C.	P46.15	18th Dyn.
125	Stamped	Cartouche of Tuthmosis III	5.1	-	-	Sai, Nubia	magazine SAF5	NK

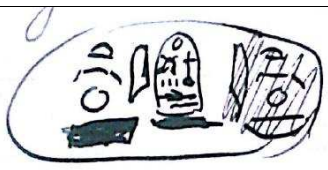
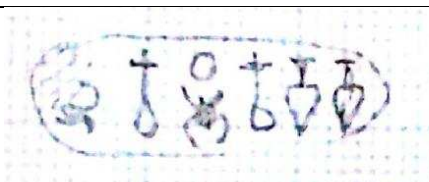
 <p>Ball No. 37 (29/397). (Amarna Object Card 1928-29, TA.OC.28-29.397; Image courtesy of the Egypt Exploration Society).</p>	 <p>Ball No.93 (22/571). (Image courtesy of the Egypt Exploration Society).</p>
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Table 14: Database of Group Di

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
1	Stamped/ Coating	Seal with <i>ms</i> hieroglyph. White coating.	5.4	-	-	Amarna MC & NP	-	18th Dyn.
39	Stamped	Seal with <i>ankh</i> hieroglyph	6.5	-	-	Amarna W.V.	Long Wall St. 9, Bedroom	18th Dyn.
40	Stamped	Seal with <i>ankh</i> hieroglyph	-	-	-	Amarna W.V.	Long Wall St. 9, Bedroom	18th Dyn.

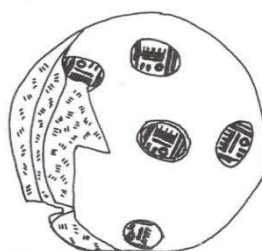


Ball 1 (1924.30.24;

Image courtesy of Bolton Museum)

Table 15: Database of Group Dii

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
116	Stamped	Seal with <i>imnyt</i> (daily offering) x 14	-	-	-	Beth Shan, Israel	Locus 1196 on floor of main level VI	20 th Dyn.
117	Stamped	Indistinct impressions	-	-	-	Beth Shan, Israel	Locus 1206	20 th Dyn.



Ball 116 (27-10-452) (James 1996: 18)

Table 16: Database of Group E

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
8	Stamped	Seal with 2 <i>nefer</i> hieroglyphs between a <i>wedjat</i> eye	4.1	55	-	Amarna, M.C.	House P47.30, eastern annexe	18th Dyn.
9	Stamped	Seal with s-shaped spiral between 2 <i>nefer</i> hieroglyphs	5.6	152	-	Amarna	-	18th Dyn.
38	Stamped	Seal with 2 <i>nefer</i> signs flanked by 2 <i>wedjat</i> eyes and two <i>r</i> signs	-	-	-	Amarna	House P47.30, eastern annexe	18th Dyn.
41	Stamped	Seal with <i>wedjat</i> eye	-	-	-	Amarna W.V.	Long Wall St. 9, bedroom	18th Dyn.
42	Stamped	Seal with <i>wedjat</i> eye	-	-	-	Amarna	-	18th Dyn.
43	Stamped	Seal with <i>wedjat</i> eye	-	-	-	Amarna M.C.	House Q45.103	18th Dyn.
57b	Stamped	Seal with 2 <i>nefer</i> signs between <i>wedjat</i> eyes	-	-	-	Amarna N.S.	U35.17	18th Dyn.
60	Stamped	Seal with 2 <i>nefer</i> signs between <i>wedjat</i> eyes	4.2	-	-	Amarna N.S.	U35.17	18th Dyn.


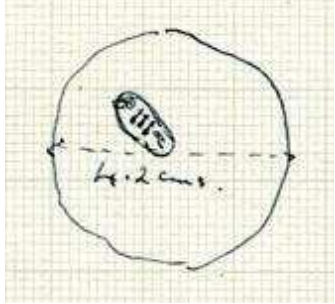
 <p><i>Ball 8 (6730; Image courtesy of Manchester Museum)</i></p>	 <p><i>Ball No. 60 (29/243). (Amarna Object Card 1928-29, TA.OC.28-29.243; Image courtesy of the Egypt Exploration Society).</i></p>
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Table 17: Database of Group Fi

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
46	Stamped	Seal with papyrus clump flanked by 2 animals	5	-	-	Amarna M.C.	House Q45.77	18th Dyn.
47	Stamped	Seal with papyrus stalk	5	-	-	Amarna M.C.	House Q45.83	18th Dyn.
55	Stamped	Seal with floral design	4.4	-	-	Amarna M.C.	Q46.41	18th Dyn.


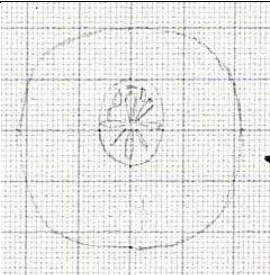
 <p><i>Ball No. 47 (25/42a). (Amarna Object Card 1924-25, TA.OC.24-25.042; Image courtesy of the Egypt Exploration Society).</i></p>	 <p><i>Ball No. 55 (24/792). (Amarna Object Card 1923-24, TA.OC.23-24.0792; Image courtesy of the Egypt Exploration Society).</i></p>
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Table 18: Database of Group Fii

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
18	Stamped	Lotus stamp impressions	4.4	75	No contents	Amarna	75	18th Dyn.
19	Stamped	Lotus stamp impressions? Possible white coating.	5.3	126	-	Amarna	-	18th Dyn.



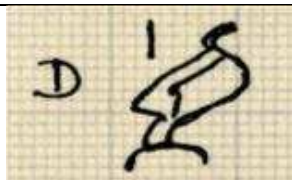
 <p>Ball 18 (56.21.615; Photograph: A.Hammett, courtesy of Liverpool Museum)</p>	 <p>Ball 19 (56.21.616; Photograph: A.Hammett, courtesy of Liverpool Museum)</p>
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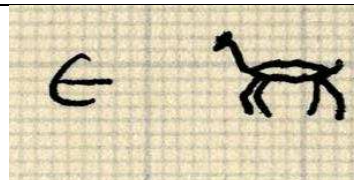
Table 19: Database of Group G

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
44	Stamped	Seal with flying bird (& unidentifiable marks)	-	-	-	Amarna, W.V.	Main St. 9, bedroom	18th Dyn.
45	Stamped	Inscribed with a striding animal (cow or gazelle), with flying	-	-	-	Amarna, W.V.	Main St. 9, bedroom	18th Dyn.

		bird, some signs unrecognisable.						
46	Stamped	Seal with papyrus clump flanked by 2 animals	5	-	-	Amarna, M.C.	House Q45.77	18th Dyn.
49	Stamped	Seal with flower? Flanked by scorpions?	4.5	74	-	Amarna, M.C.	House Q45.35	18th Dyn.
71	Stamped	Seal with gazelle?	-	-	-	Amarna, W.V.	Long Wall St. 9, Bedroom	18th Dyn.



Ball No. 44 (22/158D;
Images courtesy of the Egypt Exploration Society).



Ball No. 71 (22/158e;
Images courtesy of the Egypt Exploration Society).



Ball 49 (24/1008; Photograph: A.Hammett, courtesy of Museum of Archaeology & Anthropology)



Ball No. 126 (F5631). Image courtesy of Marie Vandenbeusch.

Table 20: Database of Group H

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
9	Stamped	Seal with s-shaped spiral between 2 <i>nefer</i> hieroglyphs	5.6	152	-	Amarna	-	18th Dyn.
48	Stamped	Seal with abstract s-shaped spirals	-	-	-	Amarna, M.C.	House Q45.83	18th Dyn.
69	Stamped/Inscribed	2 abstract designs	-	-	No contents	Kom el-Nana	-	Roman Period ?

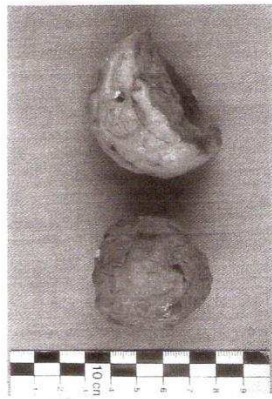


Ball No. 9 (7961; Photograph: A.Hammett,

Courtesy of Manchester Museum).

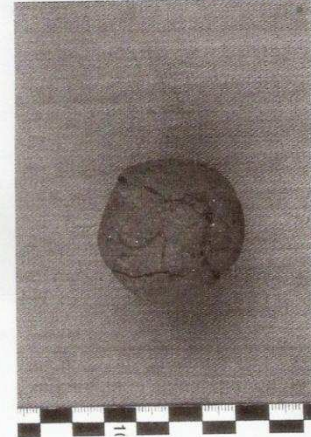
Table 21: Database of Group I

Ball No.	Type of Decoration	Decoration description	Diameter (cm)	Weight (grams)	Contents	Provenance	Context	Date
11	Stamped	Blank seal	5.4	-	-	Amarna	House M50.10	18th Dyn.
12	Stamped	Blank seal	4.3	-	-	Amarna	House O49.2	18th Dyn.
15	Stamped	Blank seal	4.1	-	-	Amarna	House Q46.1	18th Dyn.



4 Berlin, Ägyptisches Museum u. Papyrussammlung, 25162 u. 25170; Photo: N. Loschwitz (zu Arnst, Nilschlammkugeln mit Haaren)

Ball 11 (25162)



8 Berlin, Ägyptisches Museum u. Papyrussammlung, 36610; Photo: N. Loschwitz (zu Arnst, Nilschlammkugeln mit Haaren)

Ball 15 (36610)

Table 22: Database of Group J

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
20	Holed	13 indents in a circle	4.9	52	-	Amarna	House U	18th Dyn.
21	Holed	8 holes in circle, 1 large indent in middle	3.5	19	-	Amarna	House U 35.17	18th Dyn.
22	Holed	22 holes in circle, 1 large indent in middle	2.9	17	-	Amarna	House U 36.34	18th Dyn.
24	Holed	14 holes in circle, 1 large indent in middle, 14 other holes	4.6	64	-	Amarna	294?	18th Dyn.
56	Holed		-	-	-	Amarna, N.S.	V37.3	18th Dyn.
122	Holed	20 holes on both sides, raised in centre?	6.4	104	-	Lahun	-	-

 <p><i>Ball 20 (56.21.636; Photograph: A.Hammett, courtesy of Liverpool Museum)</i></p>	 <p><i>Ball 21 (56.21.637; Photograph: A.Hammett, courtesy of Liverpool Museum)</i></p>
 <p><i>Ball 22 (56.21.632; Photograph: A.Hammett, courtesy of Liverpool Museum)</i></p>	 <p><i>Ball 24 (56.21.682; Photograph: A.Hammett, courtesy of Liverpool Museum)</i></p>

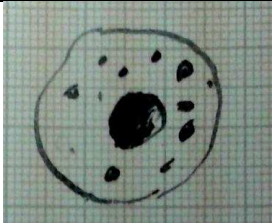

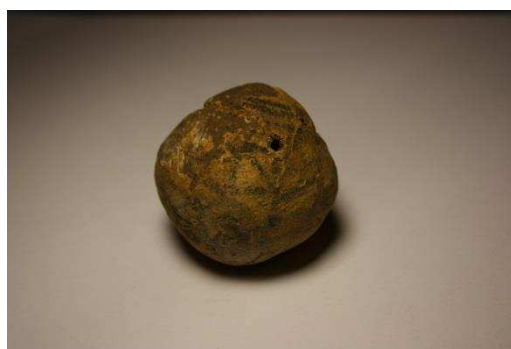
 <p><i>Ball No. 56 (26/294; Image courtesy of Egypt Exploration Society, Amarna Object Card 1926-27, TA.OC.26-27.294)</i></p>	 <p><i>Ball 122 (UC7235; Photograph: A.Hammett, courtesy of Petrie Museum)</i></p>
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Table 23: Database of Group K

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
33	Painted	Geometric pattern, black on white background	4.8	82	-	Naqada	Tomb 1251	Naqada I



Ball 33 (UC5129; Photograph: A.Hammett, Courtesy of Petrie Museum)

Table 24: Database of Group Li

Ball No.	Type of Decoration	Decoration description	Diam(cm)	Weight (grams)	Contents	Provenance	Context	Date
2	N/A	N/A	3.9	-	Hair	Amarna, MC & NP	-	18th Dyn.
13	Painted	White coating ¹⁶⁹	4.5	-	Hair	Amarna	House Q47,24	18th Dyn.
14	Painted	White coating	3	-	Hair	Amarna	House Q46,9	18th Dyn.
23	N/A	N/A	3.7	25	Hair	Amarna	House U	18th Dyn.
25	N/A	N/A	5.5	18	Hair	Amarna, M.C.	House N49.19	18th Dyn.
52	N/A	N/A	4	-	Hair	Amarna, M.C.	Q45.78 court of the house	18th Dyn.
57a	N/A	N/A	-	-	Hair	Amarna, N.S.	U35.17	18th Dyn.
70	N/A	N/A	6	-	Hair	Amarna, M.C.	N49.35	18th Dyn.
91	N/A	N/A	-	-	Hair	Amarna	-	18th Dyn.
94	N/A	N/A	4	-	Hair	Amarna	Q46.34, Rm 1	18th Dyn.



Ball no. 2 (1924.30.39A;
Image courtesy of Liverpool Museum)



Ball no.13 (30947)

¹⁶⁹ Although three balls are found with white coating, but whether this indicates decoration is debateable.

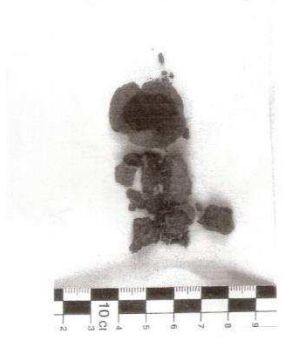


 <p>7 Berlin, Ägyptisches Museum u. Papyrussammlung, 30948; Photo: N. Loschwitz (zu Arnst, Nilschlamm-bälle mit Haaren)</p> <p><i>Ball no. 14 (30948)</i></p>	 <p><i>Ball No. 23 (56.21.673; Photograph: A.Hammett, courtesy of Liverpool Museum)</i></p>
 <p><i>Ball No. 25 (BM55138; Photograph: A.Hammett, courtesy of British Museum)</i></p>	

Table 25: Database of Group Lii

Ball No.	Type of Decoration	Decoration description	Diameter (cm)	Weight (grams)	Contents	Provenance	Context	Date
5	N/A	N/A	4	48	Hair	Lahun	Burial A	20th Dyn.
6	N/A	N/A	4	-	Hair	Lahun	Burial A	20th Dyn.



Ball No. 5

(686.j.i; Photograph: A.Hammett, courtesy of Manchester Museum)

Table 26: Database of Group M

Ball No.	Type of Decoration	Decoration description	Diam. (cm)	Weight (grams)	Contents	Provenance	Context	Date
29	Painted	White coating ¹⁷⁰	2.9	8	-	-	-	Roman?
30	Painted	White coating	2.7	6	-	-	-	Roman?
31	Painted	White coating	2.8	4	No contents	-	-	Roman?
32	Painted	White coating	2.9	11	-	-	-	Roman?



Ball No. 29 (1953.179; Photograph: A.Hammett, courtesy of Durham Museum)



Ball No. 30 (1953.173; Photograph: A.Hammett, courtesy of Durham Museum)



Ball No. 31 (1953.175; Photograph: A.Hammett, courtesy of Durham Museum)



Ball No. 32 (1953.171; Photograph: A.Hammett, courtesy of Durham Museum)

¹⁷⁰ If decoration at all.

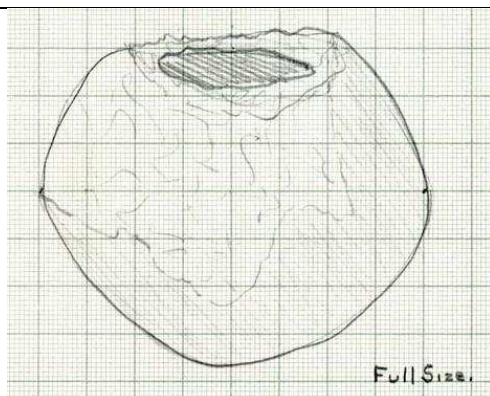
Table 27: Database of Group N

Ball No.	Type of Decoration	Decoration Description	Diam. (cm)	Weight (gms)	Contents	Provenance	Context	Date
3	-	-	-	-	-	Amarna M.C.	-	18
4	-	-	-	-	-	Amarna M.C.	-	18
7	Stamped	Blurred	4.0	50	-	Amarna	K51.1	18
10	-	-	4.9	-	-	Amarna	In House Q 47, 4	18
17	-	-	6	-	-	Amarna	In House P 47, 8	18
34	-	-	1.4	3	-	Naqada	Naqada Tomb 17	Naqada III
50a	-	-	2	-	-	Amarna M.C.	Q45.1	18
50b	-	-	2	-	-	Amarna M.C.	Q45.1	18
53a	-	-	2	-	-	Amarna M.C.	Q44.9, Room 1	18
53b	-	-	-	-	-	Amarna M.C.	Q44.9, Room 1	18
53c	-	-	-	-	-	Amarna M.C.	Q44.9, Room 1	18
53d	-	-	-	-	-	Amarna M.C.	Q44.9, Room 1	18
53e	-	-	-	-	-	Amarna M.C.	Q44.9, Room 1	18
53f	-	-	-	-	-	Amarna M.C.	Q44.9, Room 1	18
54	-	-	4	-	-	Amarna M.C.	R46.8	18
58	Stamped	-	-	-	-	Amarna	M50.15	18
59	Stamped	Design illegible from registration card	4.5	-	-	Amarna N.S.	U36.34	18
61d	-	-	-	-	-	Amarna	?, bedroom	18

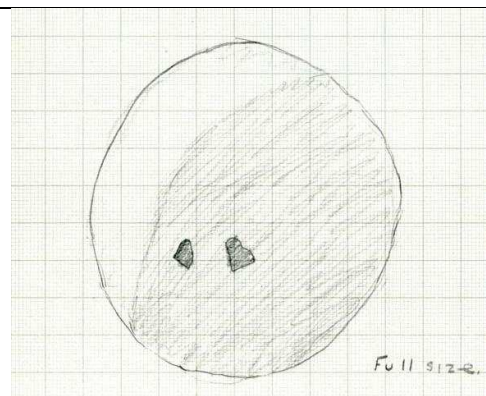
61e	-	-	-	-	-	Amarna	?, bedroom	18
62	-	-	8	-	-	Amarna N.S.	T35.25	18
63	-	-	8.5	-	hair?	Amarna N.S.	T36.60	18
64a	-	-	3	-	hair?	Amarna N.S.	T36.63	18
64b	-	-	3	-	hair?	Amarna N.S.	T36.64	18
65	-	-	4.1	-	hair?	Amarna N.S.	T36. (square to north of houses 55, 66, 72, 77)	18
66	-	-	2	-	hair?	Amarna N.S.	U33.1	18
67	-	-	2	-	hair?	Amarna C.C	Q41.14	18
68a	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68b	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68c	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68d	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68e	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68f	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68g	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68h	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68i	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68j	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
68k	N/A	N/A	1.3- 1.7	-	Hair?	Amarna, N.S.	T33.7 A/B	18
72	-	-	2	-	-	Amarna	-	18
77	-	-	-	-	-	Amarna	-	18
78a	-	-	-	-	-	Amarna	-	18
78b	-	-	-	-	-	Amarna	-	18
78c	-	-	-	-	-	Amarna	-	18

79	-	-	-	-	-	Amarna	-	18
80	-	-	-	-	-	Amarna	-	18
81	-	-	-	-	-	Amarna	-	18
82	-	-	-	-	-	Amarna	-	18
83	-	-	-	-	-	Amarna	-	18
84	-	-	-	-	-	Amarna	-	18
85a	-	-	-	-	-	Amarna	-	18
85b	-	-	-	-	-	Amarna	-	18
85c	-	-	-	-	-	Amarna	-	18
86	-	-	-	-	-	Amarna	-	18
87	-	-	-	-	-	Amarna	-	18
88	-	-	-	-	-	Amarna	-	18
89	-	-	-	-	-	Amarna	-	18
90a	-	-	-	-	-	Amarna	-	18
90b	-	-	-	-	-	Amarna	-	18
92a	-	-	-	-	-	Amarna	-	18
92b	-	-	-	-	-	Amarna	-	18
92c	-	-	-	-	-	Amarna	-	18
92d	-	-	-	-	-	Amarna	-	18
95	-	-	-	-	-	Amarna	-	18
96a	-	-	2.5	-	None	Amarna	-	18
96b	-	-	-	-	None	Amarna	-	18
96c	-	-	-	-	-	Amarna	-	18
96d	-	-	-	-	-	Amarna	-	18
96e	-	-	-	-	-	Amarna	-	18
96f	-	-	-	-	-	Amarna	-	18
96g	-	-	-	-	-	Amarna	-	18
97a	-	-	-	-	-	Amarna	-	18
97b	-	-	-	-	-	Amarna	-	18
98	-	-	-	-	-	Amarna	-	18
99	-	-	-	-	-	Amarna	-	18
100	-	-	-	-	-	Amarna	-	18
101	-	-	16	6	-	Amarna	-	18
102	-	-	2.1	9	-	Amarna	-	18
103	-	-	2.1	9	-	Amarna	-	18
104	-	-	-	-	-	-	-	-
108	Stamped	Illegible	4.4	62	-	Amarna	-	18
110	-	-	2.2	13	-	Dendereh	5:621, offering niche W of A	-
111	-	-	2.6	-	-	El- Ebadiyeh	-	Predyna stic
112	-	-	2.9	-	-	El- Ebadiyeh	-	Predyna stic?

						?		
113	-	-	3	19	-	El-Ebadiyeh ?	-	Predynastic?
114	-	-	3.1	22	-	El-Ebadiyeh	-	Predynastic
118	-	-	3.5	-	-	Zawiyet el'Aryan	Burial Z52	-
119	-	-	4	-	-	Zawiyet el'Aryan	Burial Z52	-
120	-	-	3.5	-	-	Zawiyet el'Aryan	Burial Z52	-
121	-	-	-	-	-	Zawiyet el'Aryan	Burial Z52	-
124	-	-	6.0	-	-	Amarna South Tombs	Burial of infant 210	18 th Dyn
127	-	-	4.7	-	-	Giza	By Grave LG68	OK



Ball No. 62 (30/186; Image courtesy of Egypt Exploration Society, Amarna Object Card 1930-31, TA.OC.30-31.186)



Ball No. 63 (30/217; Image courtesy of Egypt Exploration Society, Amarna Object Card 1930-31, TA.OC.30-31.217)

3. Museums who were Contacted and Replied 160:

Abingdon County Hall Museum
Ägyptisches Museum, Bonn
Albertinum
Arbeia Roman Fort and Museum
Arbuthnot Museum
Archaeologisches Museum (Münster)
Badisches Landesmuseum
Bagshaw Museum
Banff Museum
Bankfield Museum
Bedford Museum
Birmingham Museum & Art Gallery
Blumenbachshe Schadelsammlung
Bolton Museum (Central Museum & Art Gallery)
Botanic Gardens Museum
Brewhouse Yard
Brighton Museum & Art Gallery
British Museum
British Optical Association Museum
Bromley Museum
Brooklyn Museum
Buckingham County Museum
Cambridge Museum of Archaeology & Anthropology
Carnegie Museum
Castle Museum & Art Gallery
Chelmsford & Essex Museum
Cheltenham Art Gallery and Museum
Chester Beatty Library
Chiddingstone Castle
Classical Museum
Cliffe Castle Museum
Clifton Park Museum
Colchester Castle Museum
Croydon Museum & Heritage Service
Cuming Museum
Cyfartha Castle Museum and Art Gallery
Derby City Museum & Art Gallery
Dewsbury Museum
Doncaster Museum & Art Gallery
Dorchester Museum
Dover Museum
Dudley Museum
Durham University Oriental Museum
Egyptian Museum, Leipzig

Field Museum of Natural History
Fox Talbot Museum
Gloucester City Museum & Art Gallery
God's House Tower Museum of Archaeology
Grantham Museum
Great North Museum
Greenwich Heritage Centre
Guildford Museum
Guildhall Museum
Hancock Museum
Harborough Museum
Hastings Museum & Art Gallery
Herbert Art Gallery & Museum
Hereford Museum & Art Gallery
Hertford Museum
Herzog Anton Ulrich Museum
Highclere Castle
Horniman Museum
Horsham Museum
Hull & East Riding Museum
Institute of Archaeology
Ipswich Museum
Jenaer Papyrussammlung
Kelvingrove Art Gallery and Museum
Kendal Museum
Kestner Museum
Kingston Lacy
Kulturgeschichtliches Museum Osnabruck
Kulturhistorisches Museum
Lady Lever Art Gallery
Laing Art Gallery
Landesmuseum Mainz
Landesmuseum Wurttemberg
Leeds Museum
Leicester Museum & Art Gallery
Lippisches Landesmuseum
Longleat House
Lyme Regis Philpot Museum
Manchester Museum
Manor House Art Gallery & Museum
Marischal Museum
Market Hall Museum
McLean Museum & Art Gallery
McManus Galleries
Merchant Taylor's School
Mill Green Museum

Montrose Museum
Museum DKM
Museum of Fine Arts, Boston
Museum of Wigan Life
Museum Robertinum
Museum Schloss Rheydt
Myers Museum (part of Eton College)
Natural History Museum, London
Naturmuseum Senckenberg
Norwich Castle Museum & Art Gallery
Nuneaton Museum & Art Gallery
Old Speech Room Gallery & Museum
Paisley Museum & Art Gallery
Penrhyn Castle
Perth Museum & Art Gallery
Petrie Museum
Pitt Rivers
Plymouth City Museum & Art Gallery
Potteries Museum & Art Gallery
Powell-Cotton Museum
Rautenstrauch Joest Museum
Rosicrucian Egyptian Museum
Rotunda Museum
Royal Albert Memorial Museum
Royal Botanical Gardens
Royal Cornwall Museum
Royal Museum & Art Gallery
Royal Pump Rooms
Ruhrlandmuseum Essen
Russell-Cotes Art Gallery & Museum
Saffron Walden Museum
Salford Museum and Art Gallery
Salisbury & South Wiltshire Museum
Semitic Museum
Southend Central Museum
Sunderland Museum and Winter Gardens
Tatton Park
The Art & Archaeology Collection in Lincolnshire
The Burrell Museum (Glasgow)
The Freud Museum
The Hunt Museum
The Hunterian Museum (Glasgow)
The Lawrence Room
The Museum of Harlow
The Museum of Reading
The Ure Museum of Greek Archaeology

Tonbridge School
Torquay Museum
Towneley Hall Art Gallery
Trierer Papyrussammlung
Tullie House Museum & Art Gallery
Tunbridge Wells Museum & Art Gallery
University of Chicago Oriental Institute
University of Pennsylvania- Museum of Archaeology &
Anthropology
Ur und Frühgeschichtliche Sammlung
Verulamium Museum
Victoria and Albert Museum
Walsall Museum & Art Gallery
Wandsworth Museum
Warminster School
Warrington Museum & Art Gallery
West Berkshire Museum
Weston Park
Williamson Art Gallery & Museum
Winchester Museums Service (Historic Resources Centre)
Wisbech & Fenland Museum
Worcester City Museums
World Art Collections Exhibitions (Sainsbury Collection)
World of Glass
World Museum Liverpool

Museums which have not responded to enquiries:

Akademisches Kunst Museum
Alnwick Castle
Anatomische Sammlung der Universität Rostock
Anatomische Sammlungen (Halle)
Antikensammlung (Berlin)
Antikensammlung (Kiel)
Antikensammlung Kunstsammlung der Ruhruniversität Bochum
Arbroath Museum
Archaeologische Sammlung der Universität (Greifswald)
Archaeologische Sammlung der Universität Trier
Ashmolean Museum
Atkinson Art Gallery
Banbury Museum
Barber Institute of Fine Arts
Bath Royal Literary & Scientific Institution
Bexhill Museum

Bournemouth Natural Science
 Brechin (Town House) Museum
 Bristol Museum & Art Gallery
 Cairo Museum
 Carmarthenshire County Museum
 Das Wallenfels'sche Haus
 Deutsches Klingmuseum Solingen
 Deutsches Ledermuseum mit Deutschem Schuhmuseum
 Deutsches Medizinhistorisches Museum
 Diakonie Museum Kaiserwerth
 Die Archäologische Sammlung der Universität Rostock
 Dorman Museum
 Egypt Centre, Swansea
 Egyptian Museum, Florence
 Egyptian Museum, Milan
 Fitzwilliam Museum
 Forty Hall
 Fürst Pückler Museum
 Giessener Paprussammlungen
 Glassmuseum Hentrich
 Grosvenor Museum
 Guernsey Museum & Art Gallery
 Gunnersbury Park Museum
 Gustavianum
 Gustav-Lübcke Museum
 Gutenberg Museum
 Hartlepool Arts & Museums Service (Sir William Gray House)
 Haslemere Educational Museum
 Hawick Museum & Scott Art Gallery
 Helios Gallery
 Hessisches Landesmuseum Darmstadt
 Ikonen Museum
 Institut für Klassische Archaeologie und Antikensammlung
 Institute of Archaeology & Antiquity Museum
 Jersey Museum & Art Gallery
 Kölner Papyrus- Sammlung
 Landesmuseum für Kunst und Kulturgeschichte (Oldenburg)
 Lehrsammlung makroskopischer Präparate
 Leibighaus
 Lynn Museum
 Maidstone Museum & Bently Art Gallery
 Medizinhistorische Sammlung (Leipzig)
 Michael C. Carlos Museum
 Musée des Beaux- arts de Lyon
 Musée du Louvre
 Museo Civico Archaeologico (Bologna)

Museo Egizio
 Museum für Kunst und Gewerbe
 Museum of Art (MET)
 Museum of London
 Museum Schloss Glücksburg
 Musikinstrumenten- Sammlung
 National Museum of Ireland
 Naturmuseum (Freiburg)
 Ny Carlsberg Glyptotek, Copenhagen
 Oldham Art Gallery & Museum
 Orientalische Sammlung
 Originalsammlung des Archäologischen Instituts
 Papyrus und Ostraksammlung (Leipzig)
 Papyrussammlung des seminars für Ägyptologie
 Religionskundliche Sammlung
 Rheinisches Landesmuseum
 Roemer-und-Pelizaeus Museum
 Römisch- Germanisches Zentralmuseum Mainz
 Royal Engineers Museum
 Sammlung der Ägyptologischen Instituts der Universität Heidelberg
 Schlossmuseum im Schloss Friedenstein
 School of Art Gallery and Museum
 Seminar für Ägyptologie (Georg-August- Universität)
 Sheffield City Museum
 Society of Antiquaries (Burlington house)
 Staatliche Sammlung für Ägyptische Kunst
 Stadtmuseum Simeonstift
 Stonyhurst College
 Suermont Ludwig Museum
 Swindon Museum
 The Garstang Museum
 The Royal Museum of Scotland
 The Science Museum
 The Sir John Soane's Museum
 The Weingreen Museum of Biblical Antiquities
 Ulster Museum
 Vernon Park Museum
 Volkerkundesammlung der Hansestadt Lübeck
 Winchester College

4. 'Ball Sheet'

Ball No: 18

Ball Sheet

05/08/2013



Museum Name	Liverpool Museum
Identification No	56.21.615 (28975) 14? 74?
Colour	Grey
Content	No contents (there is no way of telling this)
Size	
Diameter	42-50mm, 44.04 Di. (L:45.81mm/ W:45.62mm/ D: 41.89mm)
Weight	75g
Material	Unfired Clay
Description of Material i.e. sandy, straw, etc	
State of preservation	Good
Fingerprints present?	None
No of Seals	Approx 25. difficult to count
No of Holes	9 approx- morphed into 1? Some deliberate.
Findspot	Amarna- 75
Date	18th Dynasty
Photo No:	56_21_615 138-163
Inscription	
Lotus stamp impressions. Floral poss. See 215 (or poss 216) on pl XVI from Petrie, Tell el 1894. London. Methuen & co. Other seals similar to this for other balls.	
Publications	
A. Stevens, Private Religion At Amarna, pg 112. Bienkowski & Southworth, Egyptian Antiquities in Liverpool Museum, pg. 18. Arnst, Nilschlammalle mit Haaren, pg 19 (pl. III). Freed, Pharaohs of the Sun, pg. 259. Italics are my notes	
Notes	
Record card states no hair found (1956). Sealed so not sure how they know this! Selo tape marks. No flatbase. Seals go around circumference methodically, then two sides are covered.	

Typology: 1b 6

5. Pottery Chart from *An Introduction to Egyptian Pottery* by Arnold and Bourriau (1993: 64)

SAMPLE	CLAY		NON-PLASTIC INCLUSIONS										POROSITY				HARD- NESS											
	NILE	MARL	SAND			STRAW	LIME - STONE	OTHER INCLUSIONS							OPEN POROUS TEXTURE	MODERATELY POROUS		ELONGATED PORES	DECOMPOSED LIMESTONE	DENSE	INCIPIENT VITRIFICATION	CRUMBLY AND SOFT	MEDIUM STRENGTH	HARD AND FIRM				
			FINE 60-250 μ	MEDIUM 250-500 μ	COARSE >500 μ	FINE <2mm	MEDIUM 2-5mm	COARSE >5mm	FINE 60-250 μ	MEDIUM 250-500 μ	COARSE >500 μ	GREY WHITE GRAN.	MICACEOUS INCL.	SHELLS/FOSSILS											PLANT MATERIAL	SILICA FORMATIONS	ROUNDED SAND GR.	CRUSHED SHERDS
BO1		•		3	2	1				2					1	1	2		1						•			•
BO2		•		3	3	1								1					2						•			•
BO3		•		2	1	1				3	1													•			•	
BO4	•			3	2	1	2	1					1				1						•				•	
BO5	•			3	2	1								2	1		1						•				•	

6. Striking of the ball texts

1. "King Tuthmosis III before Hathor.

Title: 'Hitting the ball for Hathor, chief of Thebes.'

Hathor: 'Words spoken by Hathor, chief of Thebes: O beloved son, much desired, lord of the Two Lands. How well is this land since you received the White Crown, since you established the Red Crown on your forehead, since you lifted up the Two Ladies, since you appeared with them, living eternally!'

King Tuthmosis III: No legends. Legend of welfare (etc. behind King): 'Wedjoyet, mistress of heaven. May she give life and well-being <to> the King of Upper and Lower Egypt, lord of giving offerings, the bodily son of Re, appearing as King of Upper Egypt in the Boat of Millions as the chief of the throne of Atum, like Re.'"

Two men below, each having a ball in hand: 'fetching by a god's servant, after he has hit them away.'

2. King Amenophis III before goddess with Hathor crown, therefore probably Hathor.

Title: 'Hitting the ball, in order that he may be given life'.

King: 'The King of Upper and Lower Egypt, the son of Re... living eternally.'

Hathor: 'Beloved of Amen-Re, lord of the thrones of the Two Lands, given all life; all stability and well-being is with her... [destroyed]...'"

3. King Amenophis III before lioness-headed Sakhmet.

Title and Formula: 'Hitting the ball, in order that he may be given life.'

King: 'Making glad the heart of her, who created his beauty.'

Sekhmet: 'May she give all life, stability and well-being, all sanity, all gladness and the passing of millions of years.'"

4. "King Amenophis III before lioness-headed Sekhmet.

Title and formula: 'Hitting the ball in order that he may be given life.'

King: eventual legend unknown, perhaps the same as in former scene.

Sakhmet: legend unknown."

5. "King Ptolemy IV before Hathor.

Title and Formula: 'Hitting the ball. Words spoken: I have bent down the pupil of the rebel, I have stricken it with the *b3k*(-staff) which has grown from the eye of Re (and) the ball, the iris of He-who-is-in-his-fire. I have hit it in order to make your heart rejoice; (as for) the Sound Eyes, their rage is no more.'

Hathor: 'I give you your eyes while bringing you joy, so that you illuminate that which is hidden in the darkness. Words spoken by Hathor, the Great One, Lady of Dendera, the Eye of Re, who sojourns in Edfu, the Eye-which-bestows-brightness of the Majesty of the King, the Living Eye which is bright and dafē on its place. Those who have rebelled against it, are no longer in existence. Words spoken: I grant that you see the eye of Re, that you behold the eye of Horus, that whivh the sun encircles and that which the moon perceives. Their lord is embodied in you, you are their ruler.'"

6. "King Ptolemy VII before Hathor.

Title and formula: 'Hitting the ball for his mother, the Mighty One, making that the mistress enjoys herself with her enemy.'

King: 'The King of Upper and Lower Egypt (Heir of Epiphaneis, whom Ptah has selected, who does the justice of Re, the living image of Amun, the son of Re (Ptolemy, living eternally, beloved of Ptah), Euergetes.' (There follow legends of protection.)

Hathor: 'Words spoken by Hathor, Lady of Dendera, the Eye of Re, whi sojourns in Edfu, lady of heaven, mistress of all the gods, *sflht-ḥbwy*, lady of writing, the mistress o the library: I grant you your Sound Eyes, being safe on their place.'"

7. "King Ptolemy VII before Hathor.

Title and Formula: 'Hitting the ball. Words spoken: take for yourself the iris of *Wbr* which is torn up. Enjoy yourself, O Lady of Dendera: the brun-snake is burnt, his being shall be no more! The slaughter-snake, his gleaming eyes are cut up. He-whose-character-is-evil has been driven away, his pupil has been hit. Rejoice, you, O Eye of Re!'

King: The King of Upper and Lower Egypt (Heir of the Epiphaneis, whom Ptah has selected, who does the justice of Re', the living image of Amun, Euergetes, 'Thy who bestows water, I come to you, Hathor, the Great One, mistress of the sistra, of the *mnit*-collar, of the rattle! I bring you the ball as the eye-which-bestows-brightness of *W3mmty* which nevertheless has been crushed through

handling the club. You are the uraeus, the iris of the Sound Eye, the Eye of Re', Pre-eminent in the Land-of-Atum! (There follow other legends).

Hathor: 'I give you your rebels, fallen into your slaughter-block. I burn the enemy of Your Majesty. Words spoken by Hathor, the Great One, Lady of Dendera, the Eye of Re', who sojourns in Edfu, the Uraeus, Pre-eminent in the Dendera nome, great of strength- she has driven away the one-whose-character-is-evil, repelling the rebels with her spells. Words spoken: be accepted your (act of) strength, you being might over *N(i)k*, as one fierce of face, who cuts down the enemies. I slaughter your rebels, I drive back those who violated your paths, I slay the company of him who trespasses your road.'"

8. "King Ptolemy VII before Hathor.

Title and formula: 'Hitting the ball. Words spoken: take for yourself the divine eye of *N(i)k* as something cut out, its iris and its pupil as something battered. I have kicked the ball, while protecting your Majesty, I have hacked up the eyes of the one. Praise to you, O lady of rejoicing, lady of praise! The slaughter-snake has been slaughtered with my knife!

King: 'The King of Upper and Lower Egypt (Heir of the Epiphaneis, whom Ptah has selected, who does the justice of Re', living image of Amun, Euergetes, the son of Re' (Ptolemy, living eternally, beloved of Ptah), Euergetes, who has taken the club of *b3k*-wood together with the ball in his hand, [who enjoys himself (?)] as a boy, a youngster, a child. Words spoken: I have to you, who guide the Two Lands (?) him who is in the horizon, you, horizon-dwelller (?) [.....] you [...] that one; strong is the fury of him, whose nature is punitive; the enemy is butchered before you. You are the foster-child of her father Re', you, about whose life one rejoices- because of her son'.

Hathor: 'I ensare for you the rebel[s] with the magical spells on my mouth. I slay those there who conspire against you. Words spoken by Hathor, the Lady of Dendera, the Eye of Re', who sojourns in Edfu, the sovereign who bestows brightness magic, pre-eminent in the day-bark. Words spoken: be welcome in peace, you who execute the revels, who are bright of eyes with the rays of your disk. I have accepted the slaughter which you have made with Apophis, the massacre with the children of the inert ones. I execture Nubia for you, I hack up the Bedawin, I give you the four (quarters) as your slaves.'"

9. "King Ptolemy XI before Hathor.

Title and Formula: 'Hitting the ball. Words spoken: O Golden One, Lady of Dendera, I hit for you the ball, I tear up the eyeball of *Wbr*, the Snake, so that Apopis is done away with in a slaughtering. Appear as the Golden One, as a triumphant one!'

King: 'The King of Upper and Lower Egypt, lord of the Two Lands (Heir of the Euergeteis, whom Ptah has selected, who does the justice of Re', the living image of Amun, the son of Re', lord of diadems (Ptolemy, living eternally, beloved of Isis): I have come to you, the one about whose life one rejoices, ruler without equal. I bring you the eye of him-whose-eye-is-violent, which

nevertheless has been crushed before you. You are the Noble Lady, the Mistress Ra'et, pre-eminent in the Land of Atum.' (There follow legends of protection.)

Hathor: 'Words spoken by Hathor, the great lady, lady of Dendera, the Eye of Re', lady of heaven, mistress of all the gods, the daughter of Re', who came forth from his body, the Eye-which-bestows-brightness, as the iris of the Sound Eye: be welcome in peace, O strong one, hero, champion of the gods [and the goddesses]. I have accepted your (act of) victory; joyful for me is your power since you have slaughtered *Sftḥ* with your victory. I grant you strength in the Place-of-Trampling; the watchers assure your protection.'"

10. "Unnamed King before Hathor.

Title and formula: 'Hitting the ball. Words spoken: take for yourself the iris of *Wbr*, in order that it may give abundant pleasure to you, O Eye of Re', beautiful of face, sweet of loveliness. May your heart become appeased, while slaying your enemies!'

King: 'The King of Upper and Lower Egypt, the son of Re', the great god, one over whom the uraeus rejoices! The King of Upper and Lower Egypt is on his seat as a boy, a youngster, a child while chasing away *Nr*, while repelling *Nḥ3-ḥr*, while cutting up the eye-which-bestows-brightness of *W3mmty*. He is the protector who fills the heart of the Powers, a god who defends the great Ennead.' (There follow legends of protection.)

Hathor: 'Words spoken by Hathor, lady of Dendera, the cobra-snake of Re', the *mḥn*-snake of Herakhty, the daughter of the Lord-of-All who came forth from him, who repels the rebels with her words, who burns the enemy of Re' with her heat, who fills his heart [on the day] which is fixed. The Unique One, flourishing of appearances, is on her place; the Eye of Re', pre-eminent in the Land of Atum, is protecting her father, while chasing away his enemies, while burning the body of *Wbr*. She is the flaming goddess, the great one who is powerful through her strength, who beholds the slaughtering of Apophis.'

11. "Unnamed King before Hathor and Harsomtus.

Title: missing.

Formula: 'Take for yourself the divine eye of the rebels of your father. Its iris, its pupil is battered. I bring it before you in order to appease your heart, so that Your Majesty enjoys herself with what approaches your ka.'

King: 'The King of Upper and Lower Egypt, the son of Re'. Long live the good god, the foster-child of the Eye of Re', who stabs the divine eye in *Wbr*, who fetches the club of *b3k*(-wood) in order to hit the ball, who strikes her enemies before her, who makes a merry dancing and music-making just as she likes it- the lord of strength, the son of Re'. (There follow legends of protection).

Hathor: 'Words spoken by Hathor, lady of Dendera, the Eye of Re', lady of heaven, the mighty one, pre-eminent in the Dendera nome- that is, the uraeus, pre-eminent in the Land of Atum- who punishes the rebels as the flaming

goddess: I give you your divine eyes, their divine nature prevailing over the polluted one. May you strike your enemies with your victory!’

Harsomtut: ‘Words spoken by Harsomtut, the child, the son of Hathor, the great and big one, the first-born child of Horus the Behdetite, the great god... beautiful, sweet of loveliness, the youthful son of the uraeus-goddess in Dendera: I give you your eyes, they being soun in their place, without evil assembling itself in their interior.’

Legend referring to Hathor: ‘The Queen of Upper and Lower Egypt, the Eye of Re’, the mistress of the Two Lands, who slays the enemies of her father Re’; she is the lady-of-all, the mistress of all the fods, who punishes Apopis in heaven. It is the unique One on the head of the Horizon-dweller, Hathor, the great one, lady of Dendera, the Eye of Re’.”

12. “Unnamed king before Hathor and ‘*Ihy*.”

Title and formula: ‘Htting the ball. Words spoken: take for yourself the iris of *Wbr* which is torn up. Be praised, lady of Dendera!

King: ‘The King of Upper and Lower Egypt, the son of Re’, who has taken the club of *b3k*(-wood) together with the ball in his hand, who enjoys himself as a boy, a youngster, a child...

Hathor: ‘Words spoken by Hathor, the great one, lady of Dendera, the Eye of Re’, lady of heaven, mistress of all the gods, who first came forth [from] his body, out of Nun for the first time, the Eye of Re’ which illuminates the Two Lands with her rays since the child opened his eye within the lotus-flower as the one who first came into being long ago- and she came forth as his living eye on the earth: I give you the rebel, fallen on to your slaughter-block, while Re’... against your enemies.’

Ihy: ‘Words spoken by *Ihy*, the great one, the son of Hathor, the noble child of the eye of Re’, the foster-child, beautiful of appearance and bright of ornaments, at whose sight the gods rejoice: I grant that your eyes remain in their place.’

Legend referring to Hathor: ‘The Queen of Upper and Lower Egypt, the noble lady, the mistress beautiful of face, sweet of loveliness, the gold of the gods, the electrum of the goddesses, the lapis lazuli among the Ennead. Everybody turn himself to see her, Hathor, the great one, the lady of Dendera, the Eye of Re, lady of heaven!’

13. Unpublished

14. Unpublished

15. Unpublished

“The emporer Augustus before *Ihy*, Hathor, and Horus of Behdet.

Title and Formula: ‘Hitting the ball for his mother, the Mighty Eye, in order that life may be given to him’

King: ‘The King of Upper and Lower Egypt, lord of the Two Lands (Rulers of Rulers, whom Ptah has selected), the son of Re’, lord of diadems (Caesar, living eternally, beloved of Ptah and Isis), who has taken the club of *b3k*(-wood) (and)

the ball in his hand, appeasing the Eye of Re' in her land. Words spoken: I have come to you, O Gold of the gods, Eye of Re', pre-eminent in the Land of Atum. I have brought you the ball, the divine eye of *N(i)k*. I have hit it in front of your person. You are the uraeus... (?)... the living eye of the front of Atum.'

Ihy: 'Ihy the great one, the son of Hathor. I have accepted your performance. My heart rejoices by it; and glad is the heart of my mother because of seeing it'.

Hathor: 'Words spoken by Hathor, the great one, lady of Dendera, the Eye of Re', lady of heaven, mistress of the goddesses, the right iris of the iris of the Sound Eye, the eye-which-bestows-brightness of the great beetle, the protectress of her father, sheltering ... him-whose-character-is-bad with her rays.'

Horus of Behdet: 'Words spoken by Horus the Behdetite, the great god, the lord of heaven, the lord of Dendera, him of the dappled plumage, who came forth from the horizon, the beautiful disc of gold, flourishing of appearance. He is Re', who kills his opponents. Words spoken: be welcome in peace, (you) hero in his work, power who overpowers *Wbr*. I have accepted your exploit, because you have cut up Apopis (and) the enemies of the Sound Eye with... I have given you valour among the living (and) the strength of the great god for your arms.'"

16. "The Emperor Augustus before *Ihy*, Hathor, and Harsomtus.

Title: 'Hitting the ball. Words spoken:'

Formula: 'Take for yourself these irises of *Wbr*, the divine eye of *Nik* which is torn up!'

King: 'The King of Upper and Lower Egypt, lord of the Two Lands, the son of Re', lord of diadems (Caesar, living eternally, beloved of Ptah and Isis). [Above King: 'Nekhet, the White One of Nekhen]. Words spoken: I have come to you, protectress of the Winged Disc, the leader, the living eye... I have brought to you the ball, the eye-which-bestows-brightness of *W3mmty*, which I have hacked up exactly before you. You are the iris of the iris of the Sound Eye, the divine eye of Herakhty.'

Ihy: 'Words spoken by *Ihy*, the snake, the son of Re' himself, pre-eminent in the place of Re', the right eye of his mother... the great one, lady of Dendera.'

Hathor: 'Words spoken by Hathor, the great one, Lady of Dendera, the eye of Re', lady of heaven, mistress of the gods, great of strength, when she has driven away him-whose-character-is-bad, when she has warded off the rebels with her spells, the mighty one, punitive of front, who originated at first, the fire-spreading goddess who spreads fire on the enemies.'

Harsomtus: 'Words spoken by Harsomtus, the lord of *h3-dit*, the great god who sojourns in Dendera, Re' himself, foremost one of the Dendera nome. Words spoken: be welcome in peace, great god of the Golden One, who does the wish of the eye of Ra'! I have accepted your act of strength, you being powerful over *Nik*, because you have cut up the *mrt*-eye of the rebel. I make your body strong in driving away him, who trespasses your path; the rebels are no more.'"

17. "The Emperor Trajan before Hathor and Horus Behdetite.

Title and formula: missing.

King: 'The King of Upper and Lower Egypt, lord of the Two Lands, the son of Re', lord of diadems (Trajan, Augustus, living eternally): [all] protection, [life and prosperity] is behind him as (behind) Re' in eternity. <Words spoken:> I have come to you, O Noble Lady in Dendera, ruler...; I have taken the club of *B3k*(-wood) and I have fetched the ball with my hands. I have hit the Evil One... I have erased his name; his companions are non-existent. I have hit for you the ball, I have slaughtered the victim, I have shot his brood, I have blinded his eye!'

Hathor: 'Words spoken by Hathor, lady of Dendera, the Eye of Re', lady of heaven, mistress of all the gods, the sovereignty, the powerful goddess, whose *ba* is powerful, beautiful of face, sweet of loveliness, splendid of appearance among the gods: be welcome in peace, my beloved son, image of the Living One, protector of his father. You are the image of the club-bearer, who kills his enemies... ball, you shoot at him) and the member of he-whose-character-is-debased is slaughtered.'

Horus of Behdet: 'Words spoken by Horus the Behdetite, the great god, lord of heaven, the falcon of dappled plumage, [great] sun-beetle [who comes forth from] the horizon, great sun-beetle, the foremost one of the sanctuary of [his] fa[ther, who separates the two heavens with his] wings, who wards off the enemy when coming.'"

18. "The Emperor Augustus appears before Sakhmet.

Title and Formula: 'Hitting the ball. Words spoken: take for yourself the sound eye of Apopis in his slaughter-block. Its pupil in him is bettered; I have cut out his eyes in order to make your heart glad <with> that enemy of your father.'

King: 'The King of Upper and Lower Egypt, Lord of the Two Lands, the son of Re', lord of diadems (Caesar). The son of Re' (Caesar), is in the House of the Sound Eye as a leader in the place of battle, while cutting up *Wbr*, while slaughtering Apopis, while making a massacre among the children of *Bdšt*. He is like a strong bull when he attacks his enemies, while making a slaughter with the enemy according to his wish.'

Sakhmet: 'Words spoken by Sakhmet, the great one, mistress of the fire in Bigeh, the flaming one, mistress of the burning flame, mistress of the House of Flame, who burns him-whose-character-is-evil with her flaming eye, the great flaming goddess, who scorches the rebels while the fire breaks out against them in a quick leap.'

Legend referring to Sakhmet: 'Sakhmet, the strong one, is in Bigeh in her form as the Eye of Horus, the living [eye...] while [spreading fire] with the flame when she goes round, while scorching the rebels with the heat of her mouth. She is the primeval snake, the noble lady who stands up while smashing and sending out her heat against the rebels of her father.'"

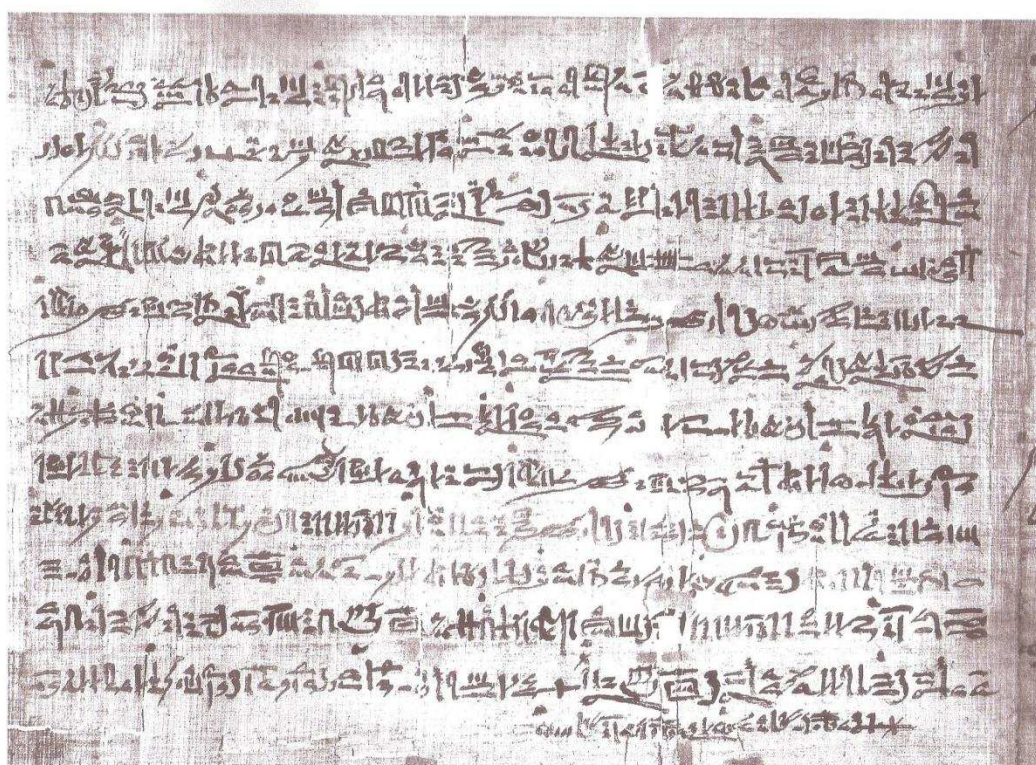
19. "The Emperor Augustus before lioness-headed Tefnut.

Title and formula: 'Hitting the ball. Words spoken: <take for yourself> the eye of Apopis which is crushed before you; the iris of him-whose-character-is-bad is smashed to the ground.'

King: 'The King of Upper and Lower Egypt, lord of the Two Lands, the son of Re', lord of the Two Lands (Caesar, living eternally, beloved of Ptah and Isis).'
[Legends of protection behind king].

Tefnut: 'Words spoken by Tefnut, the daughter of Re', lady of the abaton, who slays Apopis through her flame.'

7. Copy of the original Harris Magical Papyrus- recto VI



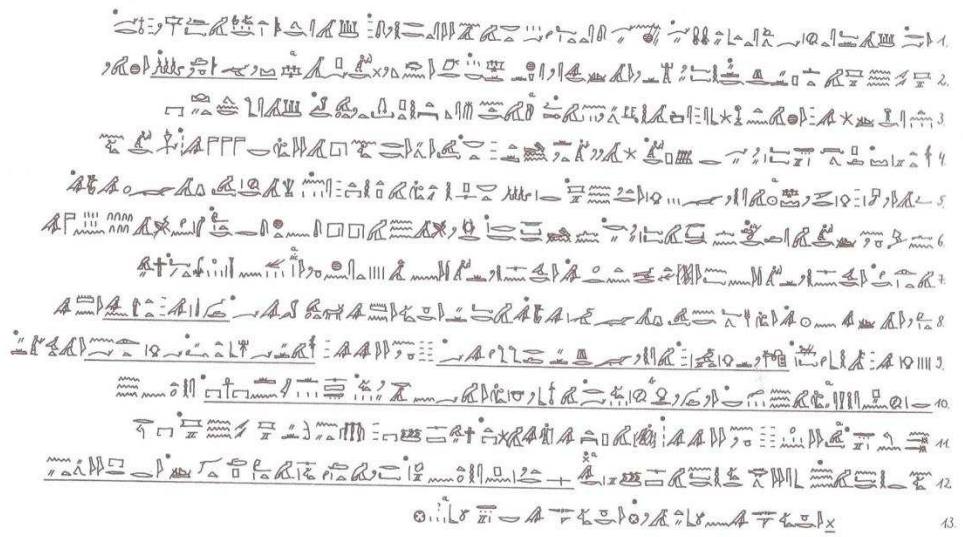


Plate 17: P BM 10042 rto VI

2. a) Lange: 𒀭. 3. a) Lange transcribes 𒀭 and in the commentary notes the similarity to 𒀭. 5. a) Lange: 𒀭, like 𒀭 an unusual determinative for *mrw*. 7. a) Lange: 𒀭. 10. a) Lange: 𒀭. b) Lange: + 𒀭. 11. a) Not transcribed by Lange, but compare lines 5 and 8. 12. a) Red cross, insertion for l. 13. 13. a) Lange: 𒀭.

(Leitz 1999: Pl. 17)

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